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ORBIT

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IN EDUCATION

OCTOBER 1989

The Revolution in Ontario School Finances

George Radwanski Meet Thomas Gradgrind, Sir!

Will Science Be Happening Here?

à la page

IN MEMORIAM

William Michael Canale

17 mai 1949 - 27 juin 1989

Michael Canale, professeur agrégé au Département de curriculum et membre du CREFO, le Centre de recherches en éducation franco-ontarienne, à l'Institut d'études pédagogiques de l'Ontario (IEPO) à Toronto, est décédé le 27 juin dernier après avoir été frappé par la foudre alors qu'il faisait de l'escalade en Caroline du Nord. Son travail dans le domaine de la linguistique appliquée, surtout en matière d'apprentissage des langues et d'évaluation de la compétence linguistique, lui a valu une réputation internationale.

Après avoir étudié à l'Université McGill, Michael est devenu assistant de recherche à l'IEPO en 1976, puis directeur de projet en 1978 et professeur en 1980. Il a grandement contribué à l'avancement de l'éducation française en Ontario tant aux niveaux élémentaire et secondaire que postsecondaire. Il a participé notamment à des projets portant sur l'analyse des didacticiels pour micro-ordinateurs utilisés dans les programmes de langue, l'interaction langue première — langue seconde à l'écrit des jeunes en milieu minoritaire, la mesure du rendement en français des élèves franco-ontariens et les programmes dans les écoles élémentaires de langue française pour les élèves de compétence inégale en français. Il dirigeait depuis septembre 1988 un projet subventionné par le Conseil de recherches en sciences humaines du Canada qui portait sur le développement et l'utilisation des compétences de communication en anglais chez les adolescentes et adolescents franco-ontariens. Il enseignait aussi des cours en français et en anglais à l'Institut, tout particulièrement au programme de maîtrise en éducation offert en français par voie de formation à distance, le programme «Langue et éducation». La revue internationale *Etudes de linguistique appliquée*, publiée de Paris, a consacré une section spéciale à la mémoire de Michael dans son numéro de septembre 1989.

Michael s'intéressait à tous les aspects de la vie : la recherche et l'enseignement; ses étudiants, sa famille et ses amis; les sports, les arts, la nature et les voyages. En pensant à Michael, on se souviendra de sa bonne humeur, de son attitude terre à terre et de son énergie.

Son épouse, Claire Trépanier, et ses trois fils Éric, Mathieu et Patrick lui survivent. □

Bernard Courte
agent d'information du CREFO

Michael Canale, Associate Professor of Curriculum and member of the Centre de recherches en éducation franco-ontarienne (CREFO) (or Centre for Franco-Ontarian Studies) at OISE, died after being struck by lightning while mountain climbing in North Carolina last June. He had established a worldwide reputation for his work in applied linguistics, especially in the areas of second-language evaluation and training methods.

After his studies at McGill University, Michael became a research officer at OISE in 1976, a project director in 1978, and then, in 1980, a faculty member. He worked for the advancement of education in French in Ontario schools at the elementary, secondary, and postsecondary levels. In particular, he participated in projects dealing with microcomputer software for language arts, the interdependence of first and second languages in the writing of students in a minority setting, the problems of French achievement measurement of Franco-Ontarian students, and programs in French-language elementary schools for students with varying levels of proficiency in the language. He had been principal investigator since September 1988 of a Social Sciences and Humanities Research Council of Canada project on the development and use of English communication skills among Franco-Ontarian adolescents. He also taught courses in English and in French at OISE, in particular for the distance education M. Ed. program "Langue et éducation." The Paris-based journal *Études de linguistique appliquée* gave a special tribute to Michael in its September 1989 issue.

Michael was interested in many aspects of life: research and teaching; students, family, and friends; sports, culture, the outdoors, and travel. When thinking of Michael, we will remember his sense of humour, his down-to-earth attitude, and his great energy.

He is survived by his wife, Claire Trépanier, and his three sons, Eric, Matthew, and Patrick. □

Bernard Courte
Communications Officer for CREFO

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CONTENTS

FEATURES

2 In Memoriam: William Michael Canale
Bernard Courte

4 Who's Running the Shop?: The Revolution in Ontario School Finances
Stephen B. Lawton

8 George Radwanski Meet Thomas Gradgrind, Sir!
A Discussion with Ardra Cole and Ruth Weir

13 Spelling in the Whole Language Classroom: Winning the Support of Parents
Ruth L. Scott

16 Will Science Be Happening Here?: Part Two
John Mazurek

19 How Secondary School Teachers Change Their Classroom Practices: Some Preliminary Findings
Ron Wideman

21 Reflections on Teacher Empowerment
Duncan Appleford

DEPARTMENTS

22 à la page/Coopération et découverte
Bernard Courte

23 Orbit reviews/Schooling *as a Ritual Performance*
Thomas Shearer

24 From the classroom/Tough Love
Ghi Dean

26 Viewpoint/Whither Technical Education?
Neil McLean

28 Instruction/The "Like" Phenomenon
Peter Gamlin and Linda Wilmshurst

30 Schools/Queen Elizabeth District High
John Davis

32 Notes from the Director
Walter Pitman

COVER

Art by Robert Hoffmann

PART ONE OF A THREE PART SERIES

Who's Running the Shop?

The Revolution in Ontario School Finances

Stephen B. Lawton

The winds of change are about. They are strong winds. In Margaret Thatcher's England, the new *Education Reform Act, 1988* mandates the local financial management of schools. And if school governors are dissatisfied with the services of their local education authority, they may choose to "take the school private" and collect grants directly from the national government.

Similar changes have been enacted by a labour government in New Zealand, and governments of various persuasions in Australian states. In the U.S.A., the state of Illinois is mandating school-based budgeting and management in Chicago; this step is meant to solve the problems which have resisted previous efforts at reform.

At the same time as responsibility is being forced down the school level, direction (control over ends) is being established by the central authority. Thatcher's reform includes introduction of a national curriculum; similar controls are being advanced in Australia at the national level, even though education is in the hands of state governments.

What we are seeing is the introduction of restructuring — *perestroika* — into the public sector. This means, among other things, (1) opening school systems to market forces, (2) using tight-loose management strategies developed in the private sector (central control over goals and evaluation, but local control over operational decisions), (3) deregulation, (4) entrepreneurialism, (5) privatization, and (6) an emphasis on the benefit theory of taxation; that is, the user pays.

Ontario educators may not be convinced that the winds of change are coming, but the evidence is present. That evidence is the first topic of this series. The next topic (February 1990) is the redistribution of corporate assessment as this pertains to the separate school system. The final article of this series (April 1990) raises the issue of taxation in support of private schools.

Stephen Lawton *is an Associate Professor in the Department of Educational Administration at OISE. His area of expertise is school finances.*

The Winds of Change: Be They Cold or Be They Hot?

Point 1. Increasingly, key policy-personnel in the Ministry of Education are not Ontario educators. Traditionally, the Ontario Ministry of Education has been staffed by longtime Ontario educators, from top to bottom. If an individual had not been an Ontario teacher, principal, or supervisory officer, it is unlikely he or she would ever have been selected for such positions as supervisory officer in the Ministry or promoted to Assistant Deputy Minister or Deputy Minister. Even in the school finance branch, key people were drawn in from school business offices.

That is not the case today. Recent appointments to positions which are associated with policy come from any place but education. The Assistant Deputy Minister for Corporate Planning and Policy, the Director of the Policy and Analysis and Research Branch, the Director of the School Business and Finance Branch all, to my knowledge, come from other ministries — Central Services, Revenue, Treasury, and so forth. And, of course, the Deputy Minister is not an Ontario educator of a traditional sort, but has a background in higher education administration.

One may view these appointments as forming a pattern, perhaps an ominous pattern. A similar phenomenon has occurred in other countries. A forester is now Deputy Minister of Education in New Zealand. In the U.K., the key planning document for implementing school-site management was prepared by Coopers and Lybrand, private management consultants. The message I read in this turning of governments to "outsiders" is that government does not trust educators. Ministries of Education are increasingly viewed as organizations intent on protecting the vested interests of educators, not improving the educational system. At a recent conference here in Toronto concerned with the transition of youth from school to work, one speaker, a private sector vice president and former deputy minister (not education), soundly castigated the Ministry of Education and got his only applause when he suggested the whole lot be cleared out. Even the teachers don't trust the Ministry of Education!

These newly appointed outsiders are beginning to change the way things are done at the Ministry. They value action and utility over consensus and quality. They want results, not excuses. They are impatient.

Point 2. There is a tightening of the links between payment and service. Municipalities and school boards do not have to be told that the province is expecting local ratepayers to pay more of the cost of local services. Transfer grants from the province have been decreased and increased emphasis is being placed on the use (or possible use) of lot levies. These are not isolated phenomena but part of broad-scale changes. In the extreme, it can be seen in the move to privatize government services, a trend well established in Britain, New Zealand, British Columbia, and other jurisdictions. In less extreme form it is evident in an emphasis on user fees, partnerships between business and education, and the reduction in transfer grants from federal agencies to provinces (Canada) and states (United States).

What is the purpose of these trends? There are at least three, as I see it. First there is the view that school boards (and other public services) need to be squeezed financially between their ratepayers (and other clients) and the provincial government if waste and bloated bureaucracies are to be eliminated. If there is less money to be had (and above all less money allocated by central political and bureaucratic agencies), then economies will be necessary.

Second, there is a desire to bring the school boards (and other service agencies) closer to their clientele. In effect, market forces are being brought to bear; parents and other ratepayers are being asked to look more closely and to determine if value is being delivered for the money spent. If the money is seen as someone else's (i.e., the province's), they are probably less critical than if the money is their own.

Third, there is a desire to increase the quality of education by forcing school systems to respond to external signals to which the bureaucracy seems incapable of responding. Among these signals are the low levels of satisfaction with the quality of graduates, the mediocre rating of Ontario students on internationally administered examinations, and the like.

Although not usually viewed as a program for increasing client satisfaction and

Figure 1
Equalized Assessment Growth in Metro Toronto

Metro Toronto Elementary	1985	$561,916/P
	1986	34,059/P + 13%
	1987	710,000/P + 12%
Metro Separate Elementary	1987	211,874/P

Amount Raised Per Mill Per Pupil in 1987

Metro Toronto Elementary	$710
Metro Separate Elementary	$212

Equalized Mill Rates 1985 – 1987

Metro Toronto Elementary	7.280	7.066	6.958
Metro Separate Elementary	7.243	6.229	6.295

Per Pupil Expenditures 1985 – 1987

Metro Toronto Elementary	$3888*	$4202	$4567
		4021	*4189*
Metro Separate Elementary	$2831	$3048	$3221
		2916	*2995*

**Prorated for strike. Italics are constant dollars.*

choice (i.e., private benefit) in education, the restructuring of Ontario school boards currently underway has in fact had this result. Roman Catholics now have a complete elementary/secondary school system; francophones now govern their own schools and have, in some areas, their own distinct school boards; public boards have been bifurcated into French immersion and English subsystems. The contrast with the single public monolithic system envisaged by Ontario educators from Ryerson in the mid-19th century to the Hope Commission of 1950 is striking. One only wonders how long other groups can be kept waiting.

Point 3. The new format for provincial grants places limits on the provincial government's role. The new format of grants establishes three key categories: horizontal equity grants (treating equals equally), vertical equity grants (treating unequals unequally), and stimulation grants. While, in fact, just an algebraic reworking of previous grants, the new packaging (which eliminates the direct use of weighting factors, weighted students, and the like) emphasizes a distinct philosophy that defines and delimits the provincial role. Contrasted with the early 1970s, when full equalization for virtually all expenditure levels was promised, the new policy emphasizes a provincial role of making up the short-fall experienced by school boards that could not otherwise afford a basic level of service. While using the archaic term "ceilings" which are in fact "floors," the Ministry's documents for the first time describe the grant system as a "foundation" rather than mill-rate equalization or percentage equalizing system.

This new framework is an essential part of the implementation of the program of linking the local community to the local service. No longer can the latter view Queen's Park as having deep pockets that can afford to achieve equity at any cost.

Figure 2
Equalized Assessment Growth in Brant County

Brant Cty. Elementary	1985	$240,977/P
	1986	253,354/P + 5%
	1987	265,273/P + 5%
Brant Cty. RCSSB Elementary	1987	130,589/P

Amount Raised Per Mill Per Pupil in 1987

Brant Cty. Elementary	$265
Brant Cty. RCSSB Elementary	$131

Equalized Mill Rates 1985 – 1987

Brant Cty. Elementary	5.353	5.496	6.101
Brant Cty. RCSSB Elementary	4.772	4.603	6.707

Per Pupil Expenditures 1985 – 1987

Brant Cty. Elementary	$2573	$2788	$3161
		2668	*2900*
Brant Cty. RCSSB Elementary	$2555	$2851	$3072
		2728	*2818*

Italics are constant dollars.

Trends Influencing School Finance

There are five key trends that affect Ontario's ability to pay for education; these trends concern (1) enrolment, (2) property assessment (residential and corporate), (3) personal income, (4) debt, and (5) competing demands. These trends interact and have significant effects on the level of funding for education provided by the province and by local jurisdictions. On occasion these effects are capricious and confound even the most thoughtful school grant plan.

With the time and resources available to prepare this article, I was not able to locate or develop extensive trend data for each of the factors mentioned above. However, readily available sources provide evidence to illustrate each of the following statements. I am confident more extensive analysis would confirm the accuracy of the conclusions I have drawn.

Enrolment. In broad terms, Ontario schools are currently experiencing four key trends in enrolment. First, the babies of the baby boomers are arriving at the schoolhouse doors. Foot (1989) documents the baby-boom and its echo; the latter is now at its peak. The existence of this echo, in his opinion, accounts for the current demand for publicly funded day care, expanded kindergarten classes, and reduced class sizes in the primary years.

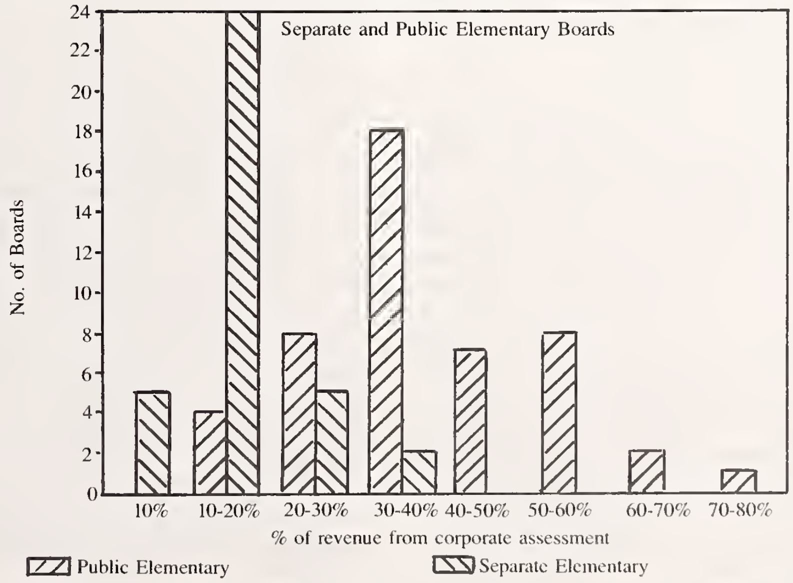
Second, the baby bust of the late 1960s and 1970s continues to work its way through the high schools, where the enrolment of adolescents continues to decline. The excellent job market at present (in part also a result of the slower growth in the labour market due to the baby bust) means many of these adolescents are being attracted into part- and full-time work.

Third, the baby boomers themselves, especially the mothers whose children are now enrolled in school, are themselves returning to high school (and university) before entering the workforce. They are joined by many immigrants, usually in the same age group, who need to develop their language skills.

Fourth, there is a shift in enrolment of two kinds, first from public to separate (and private) schools, and second from older centres to growing suburbs. The latter phenomenon accounts for the increased demand for new schools even while classrooms and schools in other locations sit empty or are converted to other uses.

Property Assessment. The 1980s have been kind to Ontario. Economic expansion has resulted in tremendous growth in both the real and assessed value of property, residential and corporate. This growth, illustrated for two communities in Figures 1 and 2, has two notable characteristics that play

Figure 3
Dependence of Public and Separate Elementary School Boards on Corporate Assessment



Source: McEwen, 1988.

hobs with school finance plans. First, it is uneven geographically. Some areas of the province have benefitted greatly and some not at all. The result is an increased variation in wealth; this means, as well, greater variation in the ability of boards to fund over-ceiling expenditures. One also can infer that variation in corporate assessment between public and separate school boards is growing, although I have no documentation of this at hand. Figure 3 (McEwen, 1988) indicates the relative dependence of separate and public elementary school boards on commercial and industrial assessment.

The second difficulty created for school finance by the growth in real property values (both due to new construction and increased value of land) is that local reassessment does not register these gains as quickly as does the province's equalized assessments. Provincial equalization factors update assessments to estimated current market values even when reassessment has not been undertaken in years — or decades as in the case of Metro Toronto. As a result, while ratepayers' actual mill rates may be climbing, their *equalized* mill rates may be declining. That is, from the province's perspective, local tax burdens may be declining even while local residents perceive them as increasing.

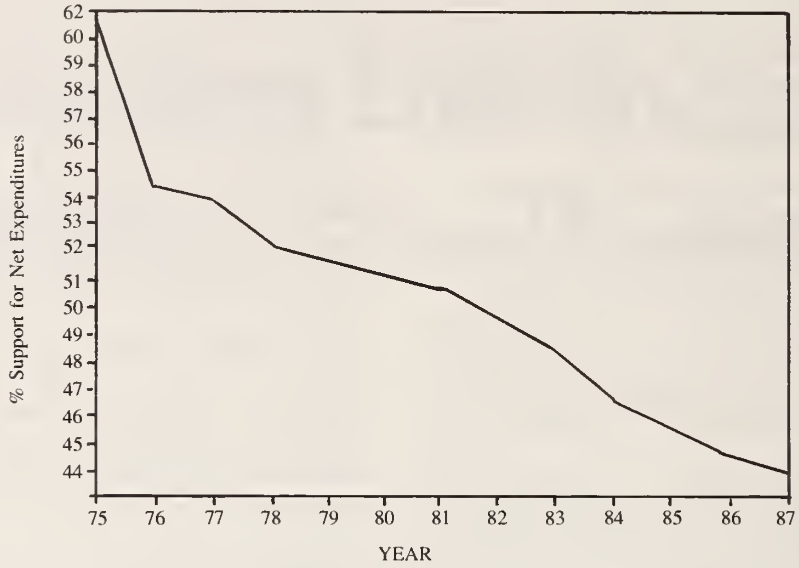
Personal Income. Along with the good times have come substantial increases in personal income and, hence, personal income taxes. The latter are useful in funding the provincial share of education and other services. But like increases in assessment, the gains in income are not equally spread across the province.

Debt. Although school boards generally operate with a balanced budget, the provincial and federal governments do not. Currently, the government of Canada borrows on the order of $30 billion per year to pay interest on its cumulative debt; the additional debt incurred each year is approximately $30 billion. That is, all of the money we are borrowing as a nation goes to pay the interest on our collective debt.

While this information may seem distant from school boards, it is not. The grants they receive from provinces may be viewed as subsidies to cover operating deficits. Similarly, transfer payments from Ottawa to the provinces may be viewed as subsidies to cover provincial deficits. Grants flow one way (down); debts the other (up). In short, part of the federal debt is a school board debt. If Ottawa decides to reduce the rate at which it incurs new debt (which it apparently plans to do and in fact has been doing for the past few years), there will be fewer grants flowing down through provinces to school boards. That is bad news for school boards.

Competing Demands. Education is not the only service (public or private) that has its hands extended in search of government gratuities. While some demands on provincial (and federal) governments are unexpected, such as natural disasters, others are easily anticipated, such as the growth in the demand for health care as our population ages. Although the demand for education, as measured by the number of children aged 5 to 19, is probably increasing after a decade of decline, its growth rate does not equal that of health. The competition is tough.

Figure 4
Percentage Provincial Support for All School Boards, 1975 — 1987



Source: McEwen, 1988.

Effects of Trends

The five trends outlined above have direct effects on the total funds allocated for elementary and secondary education, and the relative roles of the province and local school boards in providing these funds. A brief analysis of these effects demonstrates the shift to the local tax base in the past decade, a shift that is intensifying.

Provincial Funds for Education. There are several ways of measuring the provincial contribution to education: the total provincial allocation to education, the percentage rate of grant, the level of grant ceiling that is set, and total percentage of budget devoted to education. In dollar terms, the provincial legislative grants have increased from a total of $845 million in 1970 to $3,134 million in 1985 to an estimated $4,996 million in 1989, a six-fold increase *(Education Statistics, 1985* and *Education Funding in Ontario, 1989).*

Between 1975 and 1987, the average percentage rate of grant declined from approximately 61 percent in 1975 to 46 percent in 1987 (see Figure 4, taken from McEwen, 1988). This decline in rate of grant can be accounted for in two ways. First, the grant plan is designed in such a way that grants are inversely proportional to equalized assessment per pupil. As enrolment declined during the 1970s, equalized assessment per pupil obviously increased (leaving aside an increase in overall equalized assessment). As a result, the average rate of grant declined. Second, expenditures per pupil increased more rapidly than inflation while grant ceilings were essentially tied to inflation (Macdonald Commission, 1985, pp. 56–57). In 1979, at the end of the federal

Figure 5
Trends in Enrolment, Expenditures, and Property Taxes Relative to Income

Year	Enrolment	School Board Expenditures ($ millions)	Property Taxes		
			Total (4 millions)	$'s Per Household[a]	Per Cent of Income
1970	2,022,401	1,639.5	794.9	180.00	1.59
1979	1,858,845	3,919.0	1,863.2	366.00	1.51
1989[b]	1,746,713	9,660.0	5,630.8	767.28	1.54

Source: School Business and Finance Branch, Ontario Ministry of Education.

[a] Indicates per household gross taxes before deductions for any assistance given by the School Tax Credit Act.

[b] Estimate.

government's Anti-Inflation Board restrictions, the vast majority of school boards were under the grant ceilings. By 1982, "about three quarters of the school boards ... [were] spending in excess of their grant ceiling" (Lawton, 1983, p. 42). Today, I believe all school boards are over their grant ceilings and the Ontario grant plan has become, in effect, a foundation grant plan.

Local Educational Contributions. The local contribution to education has increased in terms of current dollars from $795 million in 1970 to $3,652 million in 1985 to an estimated $5,631 million in 1989, a sevenfold increase. This compares with the sixfold increase noted for the provincial contribution.

Since the property tax is usually looked upon as a regressive tax (although this view has recently been challenged; see for example Kitchen, 1986), it is useful to express the property tax burden as a percentage of income. That is, has this shift of the educational burden from the province to the local level meant an increase in the use of a potentially regressive tax? Figure 5 provides data for points in time about a decade apart, 1970, 1979, and 1989. The data indicate that education property taxes have remained between 1.6 and 1.5 percent of household income for the entire period, with a decline during the 1970s and an increase in the 1980s.

Much of the increase in average property tax expressed as a percent of income between 1979 and 1989 probably has occurred since 1987. In 1987, the local share was $4,386 million; in 1989 it is $5,631 million, a 28.4 percent increase. However, assessment growth was 7.74 percent, implying an average net growth of 19.1 percent in local tax rates, well in excess of inflation which has been about 4.5 percent per year for the period (data provided on request from School Business and Finance Branch, Ministry of Education).

The relationship of household income to residential property taxes is an important issue for several additional reasons. First, quite obviously, one pays taxes out of income, not assessed values. Increased taxes on inflated property values amount to the taxing of an unrealized capital gain, something done to no other asset. (Of course, there is no direct capital gains tax on principal residences, so perhaps there is some justification in this.) However, property values are far more volatile and variable than income. As a result, property taxes expressed as a percentage of income can (1) increase at an exceptionally fast rate and (2) vary considerably from region to region. Median residential property values (the basis for taxation) in urban areas are twice those in major urban centres while median household income is only 50 percent greater. Applying a uniform mill rate to equalized assessments has the effect of taxing urban residents at a higher rate (relative to income) than rural residents, a point that certainly does not conform to popular opinion.

The situation, in truth, is still worse. Because the cost of living is higher in urban areas, even uniform tax rates for a given income level result in urban residents paying more of their total purchasing power in taxes than do their rural kin (Dean, 1988). This is so because the dollars left after paying taxes will not go as far in the city as they do in the country.

As a result of these factors, it could be expected that, for similarly situated individuals, the effective tax on income represented by property taxes may be twice as great in urban areas as in rural areas of Ontario. The problem compounds itself if urban residents own lakefront properties in cottage country, properties whose values have also increased disproportionately in recent years.

Given all these problems, it is probably impossible to operate a perfectly equitable taxation (and grant) system using equalized assessed values as the sole measure of a school board's "ability to pay." As noted earlier, this measure does not take into account the ability of ratepayers to pay taxes out of their current income or geographic differences in costs of living. What might be a more fair system? The Thatcher government, facing similar problems, has decided to switch to a poll tax; some U.S. states have optional local sales or income taxes; and some U.S. states have built household income into the measure of a school board's "ability to pay" even though only property taxes are used to raise funds.

Notes

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The original version of "Who's Running the Shop?" was presented at "Taxation in Support of Ontario Schools," sponsored by The Ontario Council for Leadership in Educational Administration, Event No. 75, Toronto, April 24 & 25, 1989. ☐

Parts Two and Three of "Who's Running the Shop?" look at the financing of the separate school system and the question of private schools. Forthcoming in the February and April issues of 1990.

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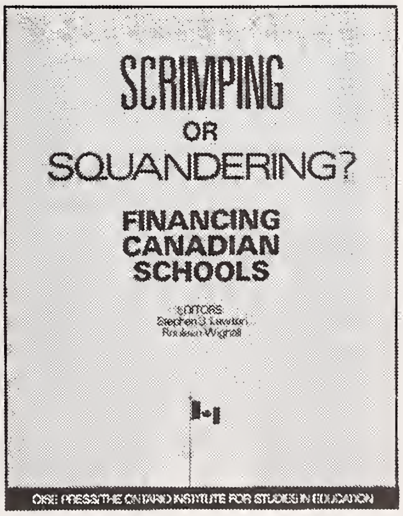

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VIEWPOINT

Whither Technical Education

A call for re-assessment

Neil McLean

It would be wonderful to say that technical education in Ontario is at the crossroads, but it may be that it never really left the starting line.

There have been some real efforts to give technical education its place, and generations — indeed, almost a century — of teachers have done what they could to make it a reality. But it's bogged down, and with all the calls for "training for the 21st century" and "the need for a technologically literate [whatever that means] society," it would profit everyone in education to take a realistic look at what technical education is and whether it's going anywhere.

Canada and Canadians have never really bitten the bullet of technical education. How could technical education ever really be taken seriously when skilled people — from Scottish stone masons to Filipino nurses — have been prepared to bring their skills here and work for a future for themselves and their children? And how many of these immigrants have encouraged their children to follow in their footsteps — to become stone masons, or carpenters, or machinists, or nurses? Most immigrants learn quickly that the real future lies in the professions, where they send their children. There will always be immigrants to fill the trades!

And what of formal technical education — schooling in the trades? It began effectively after World War I, not so much as an effort to train skilled people for the Canadian economy (although many educators worked for this objective) but as a way of extending secondary school education to more than just the academic apprentices in the collegiate institutes. The purpose of the exercise was political, not educational — an extension of secondary schooling, albeit of a somewhat less prestigious nature, to a larger proportion of the population. Most technical education was swallowed in the general extension of secondary schooling to a majority of young people of secondary school age.

In Ontario, the happy anarchy of the Hall-Dennis era was followed by the veiled prescriptions of OS:IS, and the real importance of technical education became clear.

Of 30 required credits, including compulsory ones, students are required to take *no* compulsory technical subjects at all. There is provision, of course, for one compulsory business *or* technological studies credit, but it's an either/or situation. That means that in this world of computers and space shots and genetic engineering, Ontario students must take 3.3 percent (1 of 30) of their credits in a technological studies course — maybe, if they don't take typing.

Technical education at the secondary school level appears to be of little importance. Community colleges have taken over much of the work, and not after extensive consultation with the secondary schools. And there's a new Ministry of Skills Development — what amounts to an implicit statement on the part of the Ontario government that skills will be developed outside the secondary school environment.

General shops are a good, cheap, socially useful thing to do.

Community colleges and the Ministry of Skills Development are in competition with secondary school technical education. If the secondary schools are successful, there's less call for the services offered by the colleges and the Ministry of Skills Development. In such a situation, are the technical programs in secondary schools likely to have high priority?

The current thrust of secondary level skills training is in the direction of general job skills, a sort of extended Industrial Arts, or, one might say, Manual Training for the adolescent crowd. These skills are included within a wide spectrum of social skills and attitudes — those leading to satisfaction and productivity in the world of work, a sense of responsibility in society at all levels, regard for the Native peoples, the English and French founding peoples, multiculturalism, national identity and unity — in short, the good apple-pie kinds of things. Of course, the nice thing about all those social skills is that they're cheap to teach.

It's the machines that are expensive, all those complicated, greasy, humming things that cost so much money to buy and maintain and then become obsolete so easily. General shops are a good, cheap, socially useful thing. The trouble is they don't do much for technical education.

There may be another reason for this plausible argument for general shops. In a study conducted for the OSSTF, in which 95 school boards responded, Gaydos & McDermott assessed likely technical teacher needs for school return in September, 1989. There is a likely need for 360 new teachers, and a probable supply of 130 from three Faculties of Education. The shortfall is therefore 230 teachers, *at a minimum*. Of even greater interest is the breakdown of the likely supply, demand, and shortfall. Here are a few of the more important categories:

	Supply	Demand	Shortfall
Automotive	19	60	41
Electronics	4	37	33
Machine shop (CAM)	10	31	21
Cabinet making	8	31	23
Mechanical/ drafting (CAD)	4	38	34
Electricity	7	23	16
Carpentry	6	21	15
Welding	5	14	9
Architectural drafting (CAD)	4	19	15
Totals	67	274	207

In these categories, four times as many teachers are needed as the teacher-training system is supplying. Is the choice of general shops a matter of policy, or simply an effort to cloak the fact that it's almost impossible to attract enough teachers to teach the skills which we say we need?

The first thing to do about technical education is to admit that current thinking about it is in shambles. In North America there is not, nor has there ever been real technical education. Whatever individuals may have tried to achieve, the underlying thinking has viewed technical education as an exercise for the working class, an imitation of the real education which goes on in

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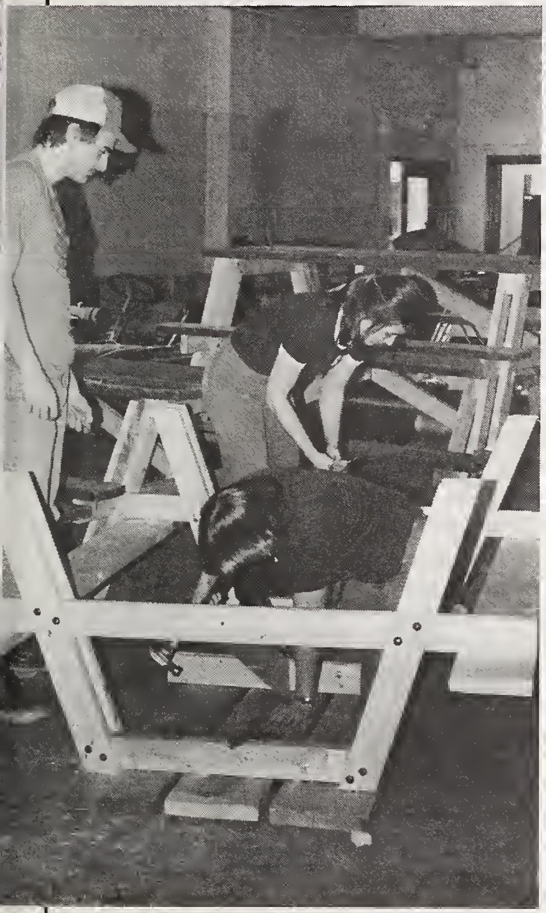

collegiates and in academic courses. And to those who argue that we've done a good job, let's see some proof.

Real technical education — apprenticeships, guilds, Technische Hochschule — this we must admire from a distance.

Let's confront, at the outset, one of the fundamental issues in technical education. Must education, to be valid, look like a mathematics classroom? There is general agreement that this is not the case, if the old linkage and the new co-operative programs and the Ministry of Skills Development mean anything. All these programs recognize that valuable learning occurs outside the regular "classroom."

The first thing to do about technical education is to admit that current thinking about it is in shambles.

But we have to go one further and decide that the organization of technical education, and not just its visible structure, has to be fundamentally re-assessed. Just as the direction and skill development of academic courses, like English or history, grow out of the nature of the activities themselves, to be manifested in an artifact called a school, so the direction and skill development of technical courses should grow out of the disciplines and content of the skills themselves.

Technical *learning* is extraordinarily important. There's no question about that. The problems are where and how. Academic social engineers want students in school, learning the "right" things, so that they can be safe and obedient citizens. They know next to nothing about technical skills, and hence have little respect for them. The notion that people can learn and develop a view of the world through subjects other than traditional academic pursuits escapes them.

All of us in education might learn to accept that there are a whole bunch of ways to come at the world. Wordsworth, wandering lonely as a cloud, "all at once saw a crowd, a host of golden daffodils." The gardener took a certain satisfaction from planting them and making sure they would bloom. Do we dare assign relative values to these experiences?

Perhaps we could take a leaf from the book of Robert McNeill, who in his TV series "The Story of English" executed a brilliant coup. He spoke not of "dialects" of English, but "varieties." In this one astute insight, he eliminated any foolishness about relative value, and let us park our biases and prejudices and get on with enjoying the glory of a wonderful subject.

Maybe that was one of the advantages of Hall-Dennis — the non-hierarchical evaluation of experience.

Who is to organize technical education? If past experience is any indication, not the Ministry of Education, and perhaps not the Ministry of Colleges and Universities. And not even the Ministry of Skills Development. If any organ of government knows about technological studies, the likely body is the Ministry of Industry, Trade and Technology. This Ministry is more likely to have close ties with industry and its needs, and most likely to be responsive. It would make more than a little sense to abolish the Ministry of Skills Development and bring its functions into MITT.

And where would technical teachers fit into all this? Perhaps as teachers still, trained to help people learn in technological fields, but as employees of the provincial government, or of major regions, working where the needs are to be met, on short- and long-term bases. The broader employment base would make up-grading/re-training less problematic than it is in a single school board. It could well be there are possibilities for a combined system — some teachers working for local boards of education, some for a central provincial body.

There's also a good possibility that teachers could undertake training roles directly in industry and act as community liaison officers to help parents and students find appropriate training employment opportunities.

It might be useful to point out that changes are going to take place, sooner or later. They can be undertaken either for good educational and training reasons, or for the more sinister excuse that is lurking over the horizon. And that reason is scary.

If any organ of government knows about technological studies, the likely body is the Ministry of Industry, Trade and Technology.

As affairs now stand, we're probably at a point of apparent stability, where the amount of part-time work undertaken by students fits nicely into what the economy needs.

But the number of pensioners grows all the time. The birth-rate is down. The number of people who work and pay for people who don't work is dropping.

The state is going to need all those young bodies to pay taxes. There's going to be a real turn-around, a need for as many taxpayers as we can find. Why would a Canadian Minister of Finance, behind a smokescreen of rhetoric about employment opportunities, *not* try to recruit as many young people as possible to meet the financial obligations of social programs and a mounting debt?

Young people will be going to work. The question is, will they do so with or without skills? Will it be with or without some personal control, based on competence, over their futures?

Are we going to help provide them with the skills they need to maintain some personal liberty, or are we going to "educate" an army of Rossum's Universal Robots, at the beck and call of people who know better what has to be done? ☐

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A DISCUSSION WITH ARDRA COLE AND RUTH WEIR

George Radwanski Meet Thomas Gradgrind, Sir!

THE GOOD BOY

A boy that is good
 Will learn his book well;
And if he can't read
 Will strive for to spell.

Ardra L. Cole

What better way to spend a warm summer's evening than whittling away at a stack of reading material accumulated over the busy months just past? Last evening I did just that, and I finished reading a publication that, since its release earlier this year, has prompted considerable discussion and substantial concern in many education circles. [Reader, note that the author is referring to the summer of '88, not to the summer just past — The Editor.]

Upon closing the document, my eyes shifted to an adjacent bookshelf from which I retrieved a second book. I returned to my chair where I sat for some time musing, my thoughts shifting from one book to the other. I was so engaged because I was troubled. Troubled that the first book had led me to the second. If my memory had served me well I could expect to find marked similarities on the pages of the two documents.

The book I had just finished reading was the policy study, *Ontario Study of the Relevance of Education and the Issue of Dropouts* (better known as "The Radwanski Report"), commissioned by the Ministry of Education. The book I had retrieved from the shelf was Charles Dickens's classic, *Hard Times*.

How can it be, I asked myself, that in the 1980s in the "progressive" province of Ontario I am able — no, impelled — to so readily connect a government-sponsored policy study report complete (or should I say replete) with recommendations for the improvement of our education system with a Dickens novel set in England at the height of the Industrial Revolution?

I spent the rest of the evening pouring over the two publications searching for evidence that might explain my reaction. As I examined the material it soon became clear why my memory had been jogged as it had. I could see that my perception of similarities between the two books was well-founded. Culling passages from each document, I began to transcend the boundaries of time and space and to imagine a meeting of two minds, a dialogue between George Radwanski and Thomas Gradgrind (the headmaster in Dickens's "model" school). I settled back in my chair and the image took shape.

The setting is a classroom in Gradgrind's school. Gradgrind is, in the company of Radwanski, offering pedagogical instruction to a teacher new in his employ.

"Now, what I want is Facts. Teach these boys and girls nothing but Facts. Facts alone are wanted in life. Plant nothing else, and root out everything else. You can only form the minds of reasoning animals upon Facts: nothing else will ever be of any service to them... Stick to Facts, sir!" (Dickens, p. 11)

"Quite right," Radwanski chimes in.

"We live in an era when the prosperity of societies and the well-being of individuals will increasingly depend on the possession not merely of various affective attributes but of specific identifiable knowledge and skills." (Radwanski, p. 2)

"Facts, sir!"

"Education, in the real sense that is vital to our society and to individuals ... can only be discussed meaningfully in terms of *outcomes* — in terms, that is, of the actual knowledge and skills acquired by students during the time they spend in school." (Radwanski, p. 25)

"Agreed," says Gradgrind. "In this life, we want nothing but Facts, sir; nothing but Facts!" (Dickens, p. 12). Watching Gradgrind move deliberately to the window, Radwanski adds,

"If the interests, aptitudes, psychological state, and stage of development of each individual child are to be the focal point of the education process, then it follows logically that the central ministry cannot offer much by way of specific prescriptions for the system as a whole — nor for that matter, can any board of education nor even any principal." (Radwanski, p. 33)

Pivoting on his heel and turning his attention to a student who has earned his disfavour, Gradgrind expounds,

"Fact, fact, fact! ... You are to be in all things regulated and governed ... by fact. We hope to have, before long, a board of fact, composed of commissioners of fact, who will force the people to be a people of fact, and of nothing but fact. You must discard the word Fancy altogether. You have nothing to do with it. You are not to have, in any object of use or ornament, what would be a contradiction in fact ... You must see ... combinations and modifications ... of mathematical figures which are susceptible of proof and demonstration. This is the new discovery. This is fact. This is taste." (Dickens, pp. 16–17)

> *"Now, what I want is Facts. Teach these boys and girls nothing but Facts. Facts alone are wanted in life. Plant nothing else, and root out everything else."*

Gradgrind appears to fix his gaze on an "inclined plane of little vessels then and there arranged in order, ready to have imperial gallons of facts poured into them until they are full to the brim" (Dickens, p. 12).

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Radwanski remarks, "It is disconcerting to hear elementary school teachers explain that they have to keep moving quickly from activity to activity instead of requiring any substantial concentration . . . Six- or 7-year-old children are extraordinarily malleable. Catering to, and thereby reinforcing, their shortness of attention span does them a far greater disservice than a gradual but determined and unceasing effort to increase their capacity for sustained concentration." (Radwanski, p. 140)

"It does children no favour," Radwanski continues, "to believe that making school 'fun' requires the avoidance of memorization or of requirements for sustained periods of concentration." (Radwanski, p. 140)

> *"Education, in the real sense that is vital to our society and to individuals … can only be discussed meaningfully in terms of* outcomes *…"*

"And as for those who suggest that testing creates stress and anxiety for many children, I suggest that if having their knowledge and skills tested were not such an unfamiliar and hence intimidating activity, children would be less likely to have problems with the testing process itself." (Radwanski, p. 144).

Gradgrind, becoming somewhat pensive, shifts the conversation to more personal matters, and recites an early encounter with his own daughter, Louisa.

" 'I wonder' … [said] Louisa, upon which [I] … stepped forth into the light and said, 'Louisa, never wonder!'

Herein lay the spring of the mechanical art and mystery of educating the reason without stooping to the cultivation of the sentiments and affections. Never wonder. By means of addition, subtraction, multiplication, and division, settle everything somehow, and never wonder. Bring to me yonder baby just able to walk … and I will engage that it shall never wonder." (Dickens, p. 56)

Preoccupied with thoughts of his daughter, Gradgrind recounts one of her more recent revelations,

"I am so unhappy, and all that should have made me otherwise is so laid waste, that if I had been bereft of sense to this hour, and instead of being as learned as you think me, had to begin to acquire the simplest truths, I could not want a guide to peace, contentment, honour, all the good of which I am quite devoid, more abjectly than I do." (Dickens, p. 224)

Radwanski, endeavouring to console and reassure his companion, responds,

"But while the development of affective attributes is a *necessary* consideration in the educational process, it is not a *sufficient* one. Education should not be confused with group therapy. We ought no longer to shrink from reaffirming explicitly that education is ultimately about the acquisition of knowledge and skills." (Radwanski, p. 52)

"Ah, yes," Gradgrind rebounds,

"With a rule and a pair of scales, and the multiplication table always in [one's] pocket … ready to weigh and measure any parcel of human nature, [one can] tell … exactly what it comes to. It is a mere question of figures, a case of simple arithmetic." (Dickens, p. 12)

As class begins, Gradgrind and Radwanski conclude their conversation, satisfied with their similitude. Thomas Gradgrind, "an eminently practical [man] … had a particular pride in the phrase eminently practical" (Dickens, p. 20). Radwanski, too, takes pride in the practical. "[For] education is ultimately not an abstract, philosophical exercise but a very real and *practical* [italics added] one" (Radwanski, p. 121).

As we leave the two "educators" and their practical ideals we cannot help but wonder about the children. What is their experience of education constructed in this way? Are they likely to be the well-equipped, well-adjusted people Radwanski suggests they will be or will many react as Louisa, or as did Gradgrind's son, Tom, who wished he "could collect all the Facts we hear so much about … and all the Figures, and all the people who found them out … and put a thousand barrels of gunpowder under them and blow them all up together!" (Dickens, p. 59).

Concluding Note

I have taken licence here in order to make a point. In so doing I have perhaps been less than fair to Radwanski and his report. I do not wish to understate the importance of the issues that Radwanski has addressed. The relevance of education and the issue of dropouts are primary educational concerns. And from his examination of these issues, Radwanski has pinpointed some of the flaws in our education system that need to be brought out and seriously considered. It is undeniable that, for example, the practice of streaming demands attention as does the whole area of early childhood education. But we must be careful when it comes time to write policy on these and other issues on which Radwanski makes recommendations. We have come a long way in the development of our system of education. Our schools and classrooms are finally becoming the exciting, dynamic, and stimulating environments we want them to be. Let us not turn back the hands of time and annul the progress we have made.

I cannot disagree that, "To complete one's schooling without having read any Chaucer, Shakespeare or Dickens … is to wander out into the world a cultural illiterate cut off from the beauty, the richness and the power of the English literary tradition" (Radwanski, p. 44). But must we live Dickens to appreciate his literary prowess?

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Renewal
Guest Editor: DAVID E. HUNT
Perspectives from New York State,
England, Nova Scotia and Ontario

A DISCUSSION WITH ARDRA COLE AND RUTH WEIR

THE GOOD BOY

A BOY that is good
Will learn his book well;
And if he can't read
Will strive for to spell.

A Response to Ardra Cole

Ruth Weir

A reading of this provocative article left me in an unsettled condition. So many preconditions accepted without question! For example, it is assumed that Gradgrind's "facts" are the same as Radwanski's "skills and knowledge." But the subject matter which Radwanski recommends encompasses the English language, clear thinking and effective learning, mathematics, literature, sciences and technology, Canadian and world history, Canadian and world geography, citizenship, work in society, French, the arts, and fitness and health (see the Radwanski Report, p. 195).

Radwanski not only advocates a broad curriculum but he also recommends the use of pedagogical techniques appropriate to each child's needs. How can such a broad curriculum be equated with Gradgrind's statement that "in this life we want nothing but Facts, Sir; nothing but Facts."

Not only are Dickens and Radwanski assumed to be saying the same things, but they are both characterized as being opposed to what Cole believes is happening in schools, which in her words, are "finally becoming the exciting, dynamic, and stimulating environments we want them to be. Let us not turn back the hands of time and annul the progress we have made."

There is something very disturbing about Cole's approach. If she is taken at her word, then the formal teaching of skills and knowledge is something to be avoided. What learning should replace skills and knowledge? How are schools to be made into exciting, dynamic places? Many of the contemporary classrooms which have bright colours and many manipulative toys could not by any measure be identified as intellectually exciting.

There is a tendency of "child-centred" education (seemingly accepted by Cole) to propose an either/or approach to education. Such an approach is found in the Hall-Dennis Report, *Living and Learning*. On page 69, it poses the question,

> "Should all pupils be taught by means of logically organized and separate courses in traditional subjects such as reading, spelling, arithmetic, history, science, literature and grammar or should all pupils enjoy the stimulation of lively ideas and be given ample opportunity to discuss them with the satisfaction of learning by discovery?"

Is this the dichotomy that Cole wishes to support? Does she accept the notion put forth by Frank Smith that it is fortunate that "children can learn without a teacher, since a large part of what we expect them to learn — including reading — cannot in fact be the subject of formal instruction" (see his *Understanding Reading*, 1971).

If Smith's theory is sound, how does the child discover history, geography, science, and many other fascinating disciplines that are relevant to adult life, and how does the child find those bodies of knowledge he or she may wish to pursue as educational goals? Is Cole suggesting such interests are innate and will automatically appear as the child develops? The OSSTF study *Blueprint for Excellence* concluded that schools should emphasize academics and prescribe a body of knowledge and skills essential to cope with the high school curriculum. What about those who don't acquire these skills? Are they deficient or is it that those who are designated "learning disabled" are really untaught and therefore made disabled?

When Radwanski rejects the notion that the interests, aptitudes, and psychological make-up of the individual child cannot be the focal point of the education process, he is proposing that there are some things that everyone should know, both for their personal growth and their ability to pursue further education. He does not argue that the individual is not important, but he does argue that there are needs common to all which determine the health of society. "The effective functioning of our democratic system of government, and hence the overall quality of life enjoyed by all our citizens, depends increasingly on having a knowledgeable and well educated population" (p. 21).

If progressive education is the best method of educating children, there ought to be a large body of research supporting the idea that such education produces a superior quality of student. To date, these data do not appear to be available. Indeed, in the United States, where progressive education has played a dominant role since the 1930s, the government has funded several studies to uncover the reasons for increasing illiteracy. In Ontario schools, where progressive education has made significant inroads since the 1950s, there is similarly no evidence that child-centred educational methods are more efficient than traditional teacher-directed classes. In fact, many students are reaching high school lacking elementary academic skills and knowledge. These students are streamed into basic programs, and, as Radwanski claims, some 79 percent drop out, many of them functionally illiterate. These students are products of progressive education, and face little freedom of choice, either in the field of further education or the employment market.

Why is it that skills and knowledge are frowned on for people between the ages of five and thirteen?

In sum, the issues I would like to hear Cole come to grips with are (1) how do children learn — is it that they teach themselves or must they be taught?, and (2) why is it that skills and knowledge, which are unanimously accepted as being necessary for future doctors, scientists, machinists, nurses, computer operators, etc., are frowned upon for people between the ages of five and thirteen?

Ruth Weir *is a former elementary teacher and a trustee with the Etobicoke Board of Education. She is working on her second Ph.D. at OISE.*

A DISCUSSION WITH ARDRA COLE AND RUTH WEIR

The Radwanski Report: A MORE SERIOUS LOOK

Ardra L. Cole

Orbit, what have you done? Why must I spend yet another summer's day with George Radwanski? I only meant to offer up a bit of light satire and now I am forced into a debate in which I had no intention of engaging and am not really interested in continuing. While I would prefer to let Lloyd Dennis, for one, speak in his own defence (See *OPSTF News,* 1989, Vol. 3, No. 3), I do feel compelled to defend myself. My comments were grossly misinterpreted, my views having been unfairly offered up to be challenged without my having really expressed them at all. And I am the one being condemned for accepting preconditions without question! It seems rather unjust to be accused, tried, and convicted without having committed a crime.

Last year, about this time, the Radwanski Report was receiving a fair bit of press. Indeed, it was almost impossible to pick up any publication related to education in the province of Ontario without seeing some reference to the report. Conferences and meetings were being organized to consider the implications of Radwanski's recommendations, editors of professional newsletters and magazines were devoting entire issues to the document, and the news media was regularly reporting to the public on the potential impact of the report.

I, like many other educators and concerned citizens, had strong opinions and some very serious concerns about the report. I was most concerned by Radwanski's failure to consider education within the broader context of our modern day pluralistic society, and about the report's potential for retrogressive effects on our system of education as it functions within this context. I was worried about the superficial level on which the issues of relevance and drop-outs were studied, conclusions drawn, and recommendations made. And I was bothered by the mechanistic and Cartesian view of knowledge that seemed to underpin Radwanski's recommendations.

But it was summertime. Although my concerns were serious and thoughts sincere, I chose to dress my comments appropriate for the temperature and attitude of the season. Sunshine, a warm summer breeze, lemonade, and a deck chair are, after all, not very conducive to serious composition. Besides, as an esteemed colleague is wont to say, "You don't have to be solemn to be serious." Or do you?

It is quite clear that Dr. Weir and I have very different views on education. I have no objection with that. I do, however, object to being criticized for failure to "offer a clear picture of how education should work" and to "come to grips with how children learn" when it was never my intention to do so. As I have said, I do not wish to engage in a dialogue on the now somewhat tedious debate of progressive versus traditional education. In response to Weir's comments, I want only to take the opportunity to make a few brief statements (serious ones, this time) to elaborate some of the concerns I outlined earlier.

First, let me go back to a very fundamental point, to the epistemological underpinnings of Radwanski's work. Radwanski places emphasis on product, on the acquisition and refinement of demonstrable skills, and on the incorporation of the principles of mastery learning. His epistemological beliefs, obviously grounded in the positivist tradition, are evident in his recommendations. If one assumes, as Radwanski does, that knowledge exists in a defined and fixed state, ready to be learned or acquired sequentially through repetition and practice, then the recommendations for abandonment of the spiral curriculum in favour of one more in keeping with the principles of mastery learning, and for standardized testing, make good sense.

I hold a more pragmatic or constructivist view of knowledge, knowing, and learning. Following William James, I prefer to think of the individual as having a more active role in the definition, construction, and modification of knowledge and in the verification of truth; not as a passive recorder of the surrounding world but as "a congenital perspectivist" whose thoughts and ideas are ever-changing and evolving in a constantly flowing stream. To presume to know what knowledge and skills are essential for success (and to presume to define that too) seems to me to be an arrogant claim that reflects a rather narrow world view.

> *Following William James, I prefer to think of the individual as having a more active role in the definition of knowledge.*

My main concern with the report, however, relates to the issue of equality and social justice in our so-called pluralistic society. Radwanski raises his concern for the provision of equality of educational opportunity arguing that destreaming will provide the kind of undifferentiated program necessary for equal opportunity in school and society. I could not agree more with Radwanski's claim that streaming is a socially unjust practice; however, several of his other recommendations seem to suffer shortcomings similar to those related to the policy of streaming.

Consider, for example, the recommendations for standardized testing and for summer school remediation for those who do not attain a satisfactory level of performance. Who might experience most difficulty with standardized testing and consequently merit intensive remediation? One can imagine summer school classes filled with ESL or new immigrant students who could not quite make the grade. Meanwhile, the more "successful" students (most likely to be from white middle-class North American families) are available for summer jobs to earn money to further their education and improve their opportunities in life. Is this destreaming or just another way in which minority students may be marginalized?

Radwanski's recommendations for increased parental involvement in the schools and for restrictions on part-time work are just as ethnocentric and exclusionary. Are we to assume, for instance, that all parents, regardless of socio-economic and cultural background, share Radwanski's beliefs about and values of education? What about those cultures who perceive education to be "the school's business"? Do we also assume that home-school communication is always good, that all parents can actually know and keep track of their children's school-related activities and performance, or that they are always literate or can communicate in English?

And what about those families who are forced to look to their children for the financial assistance provided by their part-time

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jobs? Where will the money come from if part-time jobs are restricted? (It is worth noting that a reported 80 percent of Toronto residents cannot afford to buy a home.) If exceptions are made for these special cases, how, then, will that affect student self-concept?

Radwanski's recommendation that members of the business community exercise social responsibility in their practice of hiring students is naive in light of our current economic situation. We live in a material society. Success is expressed by the consumption of commodities. Through various media, adolescents are continually pressured and instructed to become consumers. It is not their fault that most teenagers place far greater value on designer labels than on education. Reducing the number of hours students may work limits them in their ability to partake in the consumption patterns they have been socialized to follow. The business community knows this and takes full advantage of it. Students working part-time in clothing stores, for example, fulfil their social requirements while they funnel the majority of their wages back into the business. Like it or not, many businesses thrive on the employment of unskilled and low paid personnel: very often students.

One can imagine summer school classes filled with ESL or new immigrant students who could not quite make the grade.

School is as social as it is educational. Restriction of opportunities to make money may create a condition of anxiety at a social level that could in turn negatively impact on school performance. In the material world in which our students live, part-time work may help to balance the social equation.

To strive to improve our system of education is a perpetual goal and one of which we must never lose sight. But if we really expect to make a difference, we must deal with the contextual realities in which the system operates. Radwanski's solutions are much too simplistic; the problems much too complex and multidimensional.

I would like to conclude with a passage from the Hall-Dennis Report in which the authors state some of the principles guiding their recommendations.

> "No conditions of race, religion, language, or background shall be allowed to impede [the child's] progress to full citizenship in all its plenitude.
>
> "In shaping the program of the future we must avoid by every means within our power the perpetuation of classes of citizenship, some of which will be inferior primarily from lack of economic opportunity or geographic location, and unable to participate to the full in the fruits of education and training. "(p. 11)

These are admirable statements, tenets that I hope will continue to guide our actions as we persevere with attempts to improve our system of education and society as a whole. In my estimation, the recommendations made in the Radwanski Report, if followed, will do little to support them. ☐

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ORBIT REVIEWS

Schooling as a Ritual Performance

A Toronto study of an inner city Catholic school

by Peter McLaren
Foreword by Henry A. Giroux
London & Boston: Routledge & Kegan Paul xviii + 326 pages

Reviewed by Thomas Shearer

Schooling as a Ritual Performance is the result of research conducted at a Catholic middle school in Toronto. The children at "St. Ryan's" are working-class children, mostly Portuguese immigrants.

As an educator and theorist on the Left, McLaren is concerned with illuminating those mechanisms by which the school subverts the lived culture of these students in favour of a school culture reflective of dominant cultural forms which serve the economic interests of the powerful. As a Catholic, McLaren is also concerned with how the religious environment of St. Ryan's is co-opted to support cultural values which are inimical to the Gospel the school community wishes to both teach and live.

Drawing from the work of Victor Turner, Ronald Grimes, and others, McLaren uncovers the rituals, both large and small, which give meaning to the lived experience of students. More importantly, he illustrates how these rituals are manipulated to the political end of producing students who are both good workers and good Catholics. He does this by showing how school rituals influence the subjectivities of the students themselves. The instructional rituals of St. Ryan's serve to convince students that the way things are is the way things are supposed to be. This correlation between world view and ethos takes on a decidedly religious flavour at the school:

"The inderdictions, elicitations, preachments, and imprimaturs of the teachers took on greater force when teachers were seen to dispense both the wisdom of the tablets of Moses and the tables of multiplication. ... this conjoint relationship between the sacred and the secular contexts of schooling presented — rather, 'created' — a cultural milieu which managed to convey to the students a legitimate rationalization for the world the way it was. The instructional rituals implicated and insinuated the students into a world of hard work — yet a world where hard work was sanctified and suffused with Christian morality and where credence and legitimacy were given to being an 'under socialized', 'dull-normal', or level four student with not much to look forward to in the future but the shopfloor." (p. 185)

It is important to note that McLaren does not present a landscape of hopelessness as he demonstrates how the culture of the school works to reproduce the logic of capital in students. There is also an "antistructure of resistance" with a corresponding set of rituals attached to it. One of these McLaren calls "the laughter of resistance" — something familiar to classroom teachers everywhere. I suspect every teacher has had the experience of being impaled on the derisive laughter of a class, usually immediately after making a stupid (and usually funny) error of some sort. While experienced teachers know how to defuse such a situation, the event is not without significance:

McLaren eloquently describes the school as enmeshed in a culture of pain.

"Yet it is important to understand the laughter of resistance as more than wanton cruelty on the part of the students. It is not some form of jocular blood lust. It is, in essence, a form of redefining the power structure of the class. It is a way for the students to reclaim their sense of collective identity." (pp. 161–162)

McLaren eloquently describes the school as enmeshed in a culture of pain where "drudgery engage[s] invariance in a lifeless adagio" (p. 163). While it is clear that the stultifying boredom and repetition of the instructional rituals serve to prepare and condition students for their presumed future work, this culture of pain also becomes an arena for the symbolic expression of resistance. Through their stoic acceptance of boring classes, teacher harassment, and the like, students are able to turn the pain of school life to their own ends. The more students can take without showing the effects, the greater is their prestige in the eyes of their peers.

Schooling as a Ritual Performance is an important book, not because it shows us once again how schools work to reproduce the present social arrangements, but because it illustrates the subtle way in which universes of symbolic meaning are realigned and then imposed on the consciousness of students through the medium of ritual. McLaren's appeal to the emerging discipline of ritology is a theoretical extension which will, I think, prove to be very significant for deepening our understanding of what happens in schools.

As a Catholic priest and an educator, I think this book is especially important for those committed to living and teaching the Gospel. Peter McLaren has pointed a well-aimed finger in our direction through his analysis of how we, however unwittingly, have shared in the misappropriation of religious symbol and ritual to serve the cause of injustice and oppression. But at the same time, McLaren challenges us to seriously question what we do and how we do it in the light of his own work:

"If Catholic schooling persists in remaining tributary to the political project of social justice by holding at arm's length critical social analysis and practice, history may one day record this quietistic detachment as a deep stain on the Christian soul. Schools must begin to give measurable shape to our dreams of a more just society by becoming not only laboratories for critique, but also strongholds for purposeful and life-giving symbols. The realm of school ritual must illuminate these symbols, fire them in the crucible of wisdom, and shape them on the anvil of liberation." (p. 256)

The Gospel is a call to personal and social liberation built on a foundation of justice and equality. McLaren has given those committed to this vision a powerful lens through which not only to critique, but to transform. ☐

Thomas Shearer *is a priest and an educator in Cincinnati, Ohio.*

SPELLING
IN THE WHOLE LANGUAGE CLASSROOM:
Winning the Support of Parents

Ruth L. Scott

"What are you doing about spelling?"

This question is raised at parent-teacher interviews throughout the country. It is usually posed by parents who fail to see spelling being taught as they remember it — lists of words to memorize in isolation, errors written out five to ten times, every misspelled word corrected on all assignments. These parents worry that their children are being deprived of an essential communication skill which will have lasting repercussions on their future academic progress and occupational success.

Providing satisfactory answers to parents about the teaching of spelling is crucial. In today's whole language classrooms, we take great pride in the results of a child-centred environment which stresses active learning. We know that through the composing process, children learn to express themselves confidently in the written form and to make complex decisions regarding purpose, audience, form, and so forth. They become more sensitive readers while responding to the writing of their classmates. Within a thematic context, students explore a wide range of topics of personal interest, often on a level which would have been unheard of a generation ago. The benefits of a holistic curriculum are readily apparent to any whole language teacher.

There is a real danger, however, that the undeniable benefits of a child-centred program may be undermined by a wave of public pressure if we do not communicate adequately the role of spelling in our classrooms. Many important principles arising from current research in spelling have been poorly presented to parents, leaving the impression that spelling has disappeared from the curriculum. For example, the prevailing view that accurate spelling is not important in early drafts but only in the edited version of a piece of writing has been interpreted by many students and their parents to mean that spelling as a skill is no longer considered important. In addition, the fascinating findings of research on the developmental stages of spelling growth have often been viewed as a licence for not addressing spelling principles directly for fear of disturbing the child's normal growth toward conventional spelling. While some children absorb spelling patterns purely through the acts of reading and writing, the majority require the support of a knowledgeable teacher who will help them to see generalizations, and to make the transference to everyday writing.

The valid contention that spelling should not be viewed as a subject in isolation but rather integrated into the child's total program has also been misinterpreted in many instances. In some classrooms, this message has meant that spelling is addressed only when the student experiences difficulty with a specific word. That word may enter the child's personal dictionary, but is never placed in the context of larger spelling patterns and generalized to other words based on the same principle. Learning that the word "stirred" is spelled with a double r, for example, may be useful when the child wishes to spell "stirred" again. What happens, however, when the same child wishes to spell "stirring" or "tripped"? Will the structural principle for doubling consonants be generalized to the new words? For most children, such a sophisticated concept will only be understood and applied after viewing a number of similar examples and discussing the similarities with the teacher and fellow classmates. Some words, of course, do not conform to a larger spelling pattern, and must be learned individually. In such instances, students should have a repertoire of strategies for remembering the difficult parts of the word. Many of these skills can arise from discussing with a partner how he or she remembers the correct spelling. Such "tricks" as exaggerating the pronunciation of difficult letters, writing these letters in different colors, creating mnemonic devices, and using visual imagery can become techniques for studying a wide variety of words. The time spent helping the child become more self-reliant in spelling is worthwhile, and overcomes the tendency of the teacher to become a "walking dictionary."

A similar danger is inherent in basing spelling strictly on the themes addressed in class. If the teacher carefully examines the words relevant to the theme and helps the children see important spelling principles underlying these words, the discussions may be very fruitful. The students can work with these generalizations and apply them to other words in the theme and to their personal writing. On the other hand, if the class simply generates a list of 50 theme words and is expected to memorize 15 each week, there is questionable benefit. Knowing how to spell 50 words on the theme of "Spring Birds" may be useful while the unit is in progress, but it is doubtful whether many of these words will remain in the child's spelling vocabulary once the topic switches to "Dinosaurs." Without the opportunity to examine spelling patterns and to discuss strategies for learning to spell words, the value of time spent on memorizing words from theme lists may be minimal.

In communicating with parents, then, teachers should first examine their approach to spelling and determine whether their students are, in fact, engaging in worthwhile activities. Having done so, it is much easier to convey a confident attitude when explaining the spelling program to parents. Teachers may find the following concepts useful when discussing spelling with concerned parents.

The Developmental Nature of Learning to Spell

Children pass through several developmental stages on the road to becoming conventional spellers. Teachers and parents must be sensitive to the child's current stage so as not to expect an understanding of spelling principles beyond the range of the child's ability at a given time. The young child, for example, who is still struggling with initial consonant sounds is unlikely to benefit from instruction on long vowel patterns. Similarly, structural patterns such as the doubling of final consonants when adding -ing or -ed are learned gradually, since they require a fairly sophisticated level of cognitive development. The more conversant teachers are with the details of each developmental stage, the more productive will

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be their conversations with parents. Rather than dismissing a parent's concern that a child is confusing short vowels in Grade 1 by saying, "They grow out of it," it would be more reassuring to outline the features of the early developmental stages and show how the child's spelling is in line with these characteristics.

It is also important to point out that knowing a child's current stage in spelling provides important information for assisting the child in moving to the next stage. A student who is experimenting with long vowel patterns, although not yet matching the conventional spelling, as in *bote* for *boat*, is likely to benefit from activities which involve the classification of words by long vowel patterns. The teacher, then, serves as a vital support to students in their progress toward conventional spelling.

Parents should also be aware that the developmental stages of spelling growth continue well into the adolescent years. Early research on invented spelling focussed on pre-schoolers and children in the early grades. The stage beyond the transitional period was usually designated as "conventional spelling," leaving the impression that soon after the primary grades most children would quickly become competent spellers. More recent studies (Henderson, 1985; Schlagel, 1982) have revealed that children explore the spelling system over a number of years, probing the more complex levels of orthography as their own level of cognitive development progresses. Indeed, certain major generalizations about the spelling system are not comprehended until children are in the later elementary grades when their level of vocabulary development enables them to explore the relationships between base words and derived forms (compose – composition; condemn – condemnation), as well as the influence of Greek and Latin roots on the spelling system.

> *More recent studies have revealed that children explore the spelling system over a number of years.*

The Composing Process

Parents need to be given a basic explanation of the process approach to writing if they are to understand the principle that accurate spelling is essential only in the edited version of a work. They should be shown samples of early drafts in which the child is struggling with questions of purpose, form, and audience, as well as later drafts in which the mechanics of transcription are the focal point.

Teachers should also be prepared to explain how spelling is addressed within the composing process. Editing conferences provide excellent opportunities for the diagnosis of individual difficulties with specific words or certain spelling generalizations. Such sessions may lead to informal discussions of the spelling pattern in question, or could be dealt with in a small group setting if several students are experiencing the same difficulties. Peer editing should also be described, accompanied by specific proofreading checklists or procedures used in peer conferences.

Parents will be able to understand the value of process writing better if they see the ways in which polished pieces are published and celebrated. When given the opportunity to speak with individual authors about their work, parents will undoubtedly sense the intense pride and commitment generated by meaningful writing experiences, and the built-in motivation to edit and polish such work.

Spelling in the Context of Themes

Teachers must be able to explain to parents how spelling can be addressed meaningfully within a theme-based program. As mentioned previously, it is not enough to generate a list of words based on the theme and simply require the students to memorize the spelling of these words. There are many opportunities for spelling growth within any thematic unit. The very act of reading good literature and relevant reference material exposes students to language patterns and helps them to consolidate many high frequency words. Opportunities for personal writing and interesting projects related to the unit will motivate the children to produce work which they are proud to share with a wider audience.

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The perceptive teacher will also highlight spelling patterns particularly appropriate to the topic at hand. To use an earlier example of a "Spring Birds" theme, the concept of compound words would be an obvious pattern to develop, since so many common names of birds are compound words. Similarly, a "Dinosaur" theme would lend itself to a study of basic Greek roots (dino + saurus) as well as Greek prefixes and suffixes used in scientific terminology. The spelling concepts chosen, of course, must also take into account the levels of spelling development within the class.

Activity centres are an excellent vehicle within a thematic context for reinforcing spelling concepts and encouraging an overall sensitivity to language. Word searches, crossword puzzles, classification activities, dictionary games, riddles, rhyming activities, codes, and word building exercises are but a few of the possibilities for independent or small group work.

When parents see the meaningful connection between thematic activities and the opportunity for growth in spelling, there is likely to be increased support for an integrated approach to spelling.

Spelling Texts

Many parents equate an adequate spelling program in their child's class with the presence of a spelling text which is rigorously followed by the teacher. On the other hand, many whole language teachers automatically equate the presence of a commercial spelling text with antiquated, ineffective practices. Both views tend to be overly-simplistic. A spelling text, assuming it is based on a sound knowledge of the spelling system and is linked to the developmental stages of learning to spell, can be a legitimate tool for teachers. The advantage of a well-constructed series is that it can provide the critical knowledge base for growth in spelling: a systematic, sequenced presentation and study of the major spelling patterns in the English language (Templeton, 1986).

A text must never be seen, however, as the total spelling program. If the exercises in a text are dealt with in isolation from other aspects of the language program, little transference is likely to occur within the child's daily work. The formal study of spelling concepts must be balanced and reinforced with informal opportunities for spelling growth within the context of the writing program, themes, and the enjoyment of literature. The child's writing folder, for example, can provide important information as to whether or not certain spelling concepts have been grasped. If weaknesses are found, formal study of these principles may be called for. Subsequent writing opportunities may reveal whether the child has been able to apply these concepts to everyday writing. In a similar fashion, the child's performance on activities within themes may point to other areas of need. The teacher may choose to deal with these needs informally at the time, or pursue them in a group context with or without the support of a commercial spelling text.

The presence or absence of a formal spelling text, therefore, must not be the basis on which a teacher's spelling program is judged. Far more important is the teacher's ability to link the child's needs with the appropriate spelling concepts in a manner which maximizes the chances for transference to everyday writing. Such an approach will balance the formal and informal treatment of spelling and will constantly reinforce newly acquired concepts throughout the language program. Henderson (1986) suggests that "skilfullness in meeting this responsibility is the hallmark of a talented teacher" (p. 167).

> *The presence or absence of a formal spelling text must not be the basis on which a teacher's spelling program is judged.*

The key to enlisting parental support for an integrated spelling program begins with an honest self-appraisal by the teacher. Is mere lip-service being paid to spelling in the classroom? Are students engaged in meaningful activities which are likely to result in improvements in their overall spelling ability? Are the children actively involved in discovering underlying patterns in written English? In short, does the spelling program reflect the principles of active learning in a child-centred environment? If the teacher can answer these questions with confidence, and communicate these principles with conviction, much of the parental concern regarding the "new" approach to spelling will evaporate. Rather than cringing when asked, "What are you doing about spelling?", the teacher will be eager to share these exciting insights with parents. ☐

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ANNOUNCEMENT:

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Coopération et découverte

Un vidéo préparé par le CREFO

Bernard Courte

Un vidéo de formation a été préparé dans le cadre d'un projet du CREFO intitulé «Coopération et découverte», par Monica Heller, Laurette Lévy et Françoise Pelletier. Il servira dans des ateliers de formation à la méthode de l'apprentissage coopératif, utilisée dans les activités pédagogiques préparées par l'équipe du CREFO.

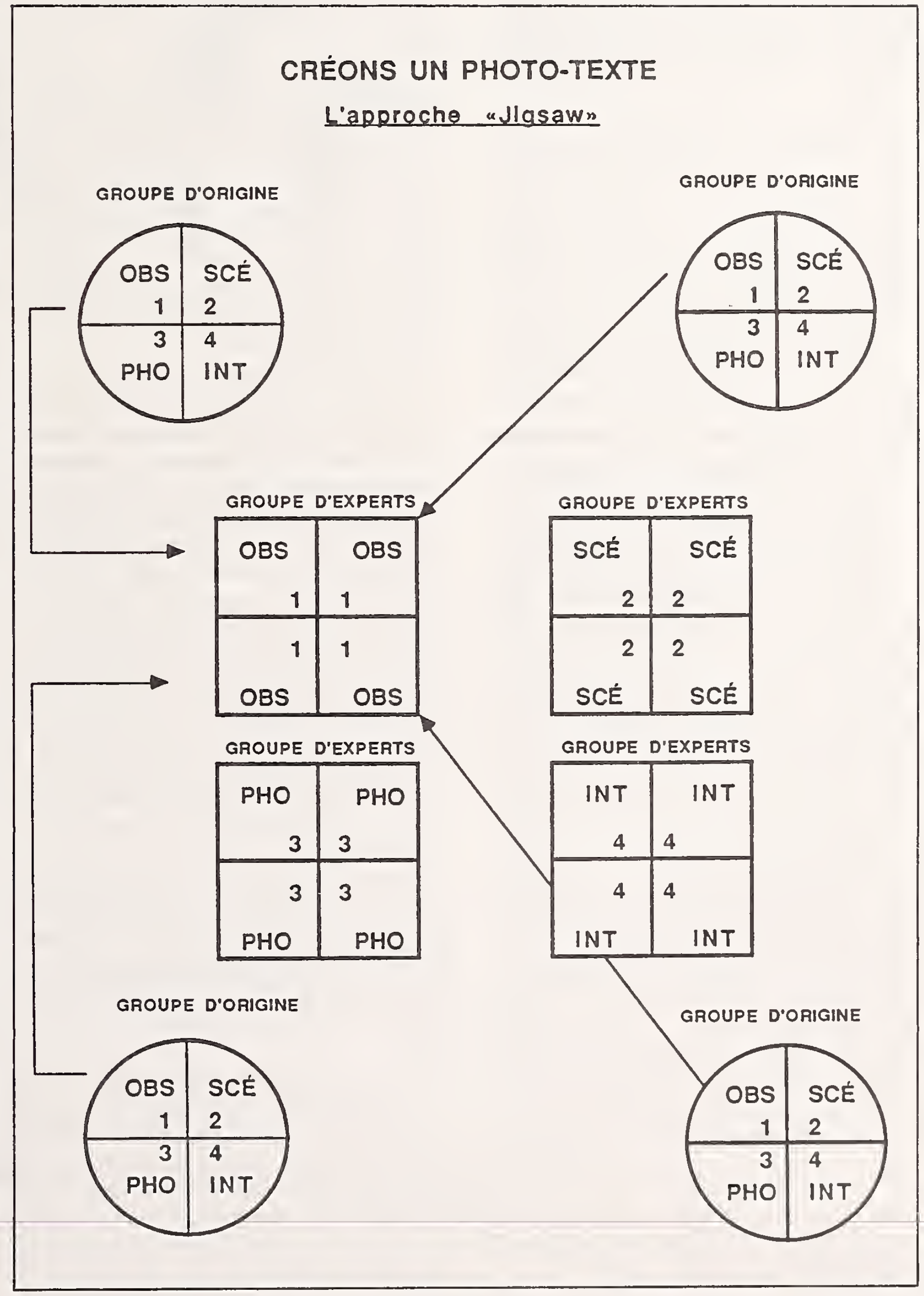
Ce matériel pédagogique coopératif pour l'enseignement en français langue première et langue seconde a été créé pour tenter de répondre aux problèmes posés par l'hétérogenéité (géographique, culturelle, sociale) des salles de classe et par l'accès difficile au français en dehors de l'école. Ainsi grâce à différentes activités pédagogiques («la Publicité», «le Reportage» et «l'Histoire de la collectivité») les élèves doivent utiliser le français dans une plus grande variété de situations de communication et ils/elles peuvent également mieux connaître la communauté francophone locale.

Ce matériel a été créé pour tenter de répondre aux problèmes posés par l'hétérogénéité.

La structure coopérative de ces projets s'inspire de la méthode «Jigsaw» où, à partir de groupes d'origine, chaque élève devenu expert dans un domaine précis est responsable de son apprentissage et de la réalisation de certaines tâches pour créer le produit final du groupe (saynète, annonce publicitaire, reportage, etc.). L'évaluation de ces projets qui prend plusieurs formes (sommative et formative) est faite aussi bien par l'enseignant-e et par les pairs que par les élèves eux-mêmes. Elle touche tout autant à l'apprentissage du français et des matières concernées qu'au degré de coopération atteint. Ces trois activités s'adressent aux cycles primaire et intermédiaire des classes de français langue première et d'immersion en français.

L'unité pédagogique incluant un vidéo montrant l'utilisation des activités pédagogiques dans différentes salles de classe permettra aux enseignantes et enseignants de se familiariser avec cette approche coopérative. Le matériel d'appui aux activités incluant un guide de l'enseignant-e sera publié par une maison d'édition, vraisemblablement le Centre franco-ontarien de ressources pédagogiques d'Ottawa. Le projet prévoit des séances de formation à travers la province surtout en novembre et décembre 1989 pour permettre la mise en oeuvre de cette approche et les éducateurs et éducatrices intéressés à avoir plus de renseignements n'ont qu'à communiquer avec Laurette Lévy ou Françoise Pelletier au (416) 923-6641, poste 2565 et 2494 respectivement. ☐

Bernard Courte *est assistant de recherche et agent d'information au CREFO, le Centre de recherches en éducation franco-ontarienne, un des centres internes de l'Institut d'études pédagogiques de l'Ontario.*



CRÉONS UN PHOTO-TEXTE

L'approche «Jigsaw»

FROM THE CLASSROOM

Tough love in the French Classroom

A plea for teacher-directed French classes.

Ghi Dean

I love teaching. I also love French, and I love kids. But I often wish I were not teaching French to kids.

There is still some prejudice against French as Canada's second language, and we meet this from some pupils, from some parents, and even from some colleagues. Believe it or not, there are still teachers who consider the French teacher as a "means to a spare."

Politically speaking, Quebec's language laws only add fuel to the fire.

These factors make it difficult to explain the value of a second language to an immature and unwilling mind. If children don't understand the value of a subject as it applies to them personally, they are much less apt to care about it.

Moreover, this subject has to be taken for six years, and if someone does not like it, he can build up a great deal of hatred for it. He can also develop many mechanisms, intentional or other, for ignoring procedures or lessons, and for annoying the teacher and his classmates. In fact, some pupils develop such a dislike for the subject that their behaviour resembles a personal vendetta against the teacher.

> **The students are used to being "delighted," and when we are not up to it they mercilessly turn off.**

The elementary French teacher has a particular handicap because pupils in elementary school pass French if they pass everything else, or most other subjects. Therefore, we cannot say, "If you don't learn these things, you will not pass." They will pass, and they know it. More leverage would be helpful, especially since Grade 5 builds on and includes Grade 4; Grade 6 builds on and includes Grades 4 and 5; etc.

In trying to meet the needs of the various ability levels, and in trying to keep the pupils (who range from recalcitrant to inert to keen) interested, the authors of one French program have adopted a rapid-moving, varied, entertainment-like teaching method. This approach can be successful, but it requires a constant energy level and a confident, outgoing personality. As well, the students are used to being "delighted," and when we are not up to it they mercilessly turn off.

I often long for the "old" days when teachers did not seem to have to have a barnful of tricks up their sleeve. I also worry that mixing too many games with subject matter can draw too much attention to the game, or to the competition, and not enough to the subject matter. Too much variety — a lack of structure — can prevent children from catching on to patterns which, in French, are vital to mastering the language in the long run.

The "total language" approach, which is currently recommended, could be compared to learning to swim by being thrown into the deep end of a pool with a lifeguard who speaks a foreign language. Though the subject matter is relevant and masterfully presented, children who accept things only with analysis and understanding, and who need constant reassurance, find the approach difficult. Further, as teachers, we've been assured that "exposure" to the subject is the goal but some of us feel that learning should also be part of the goal. Exposure alone breeds bad learning habits because you can pass a serious subject like French without getting your brain out of first gear. Faced with a unit or level requiring "drive," you're soon lost.

And is it reasonable to expose children to the totality of any subject? It must be like "doing" Europe in 14 days for six years straight, or learning algebra, geometry, and trigonometry at the same time as the multiplication tables. How does it feel for *them?*

Because grammar is no longer taught thoroughly in English classes, we are trying to do without it in French as well — makes sense, of course, until you run into a part of the language that cannot be taught without some basis in grammar. In such a case, we have to teach the English grammar, and the French right on top of it. Then the children have to practise French grammar without the benefit of practice or previous assimilation of English grammar. This understandably stresses the pupils, who in turn, pass it on to the teacher.

French, "the Subject," is, unfortunately, very teacher-oriented. French teachers have to hear and be heard. They have to put almost every word into every head before they can get anything back. For this reason a French classroom needs to be quiet for long periods; group work and centres are almost impossible; and individualized attention can rarely be given for long times during class.

> **We have to teach the English grammar and the French right on top of it.**

Subjects which lend themselves to group work, centres, and other methods which allow children to get up and move about independently have their place but they tend to water down the curriculum. They permit weaker pupils to float along in the wake of others who do the work. "If you don't use it, you lose it," goes the saying, and any teaching method which does not force pupils to use their brains should be re-evaluated.

Teacher and pupil in Core French programs need visual reference materials, and these too are often lacking, particularly for "itinerant" teachers or those stuck on a stage somewhere. Bulletin boards are needed for current vocabulary, rules for the latest structures, maps of French-speaking countries, and so on.

Everyone in Ontario now has the opportunity to learn French, and this does not exclude people who have difficulty with their first language. Special Education students are enthusiastically integrated into our classes with the fond words, "He/she's ready!" Four months into term I discovered that one special ed. student in my class could not read. Another one missed one or two classes a week because he was also integrated in the Home Ec. and Shop programs. Then, a 12-year-old was going to be integrated into French because he had just written his first word — in English!

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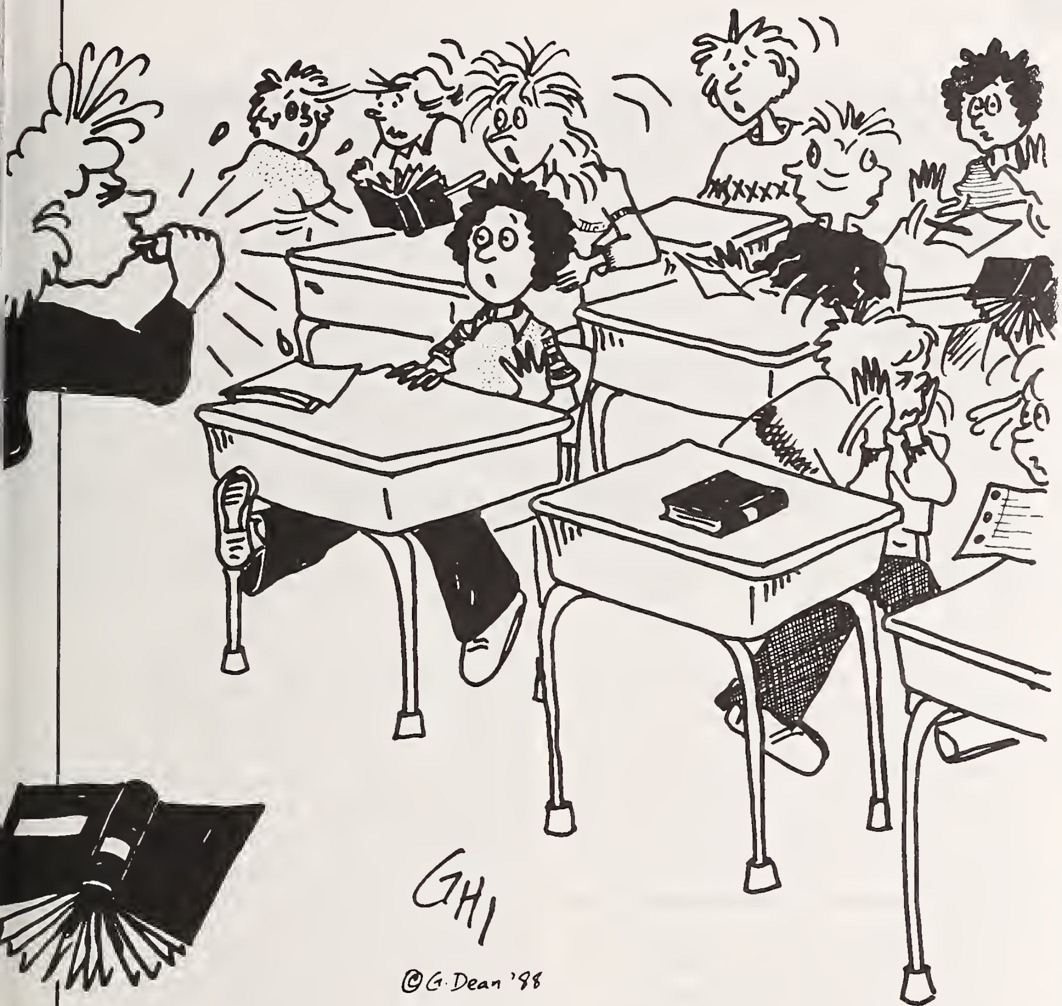

Some of these children do surprise us and succeed; some of them benefit from the social aspect of integration. But if they deter any of the regular pupils from learning, and if they cannot come regularly, I believe they should go back to special ed. classes, because I am dedicated to the regular kids. Moreover, why do students who are already having trouble in basic subjects have to take French?

I criticize some teaching methods which I have not used myself. This is not a professional thing to do. I have a reason, however. I believe that what I do in my classroom has an effect on what happens in the classrooms of other teachers. The reverse is also true. When teaching methods in one room encourage children to be casual, it becomes difficult for them to be business-like in another room.

I try to teach my lessons in five or ten minutes at the most. I do not believe that this is too long for a child to be able to sit still and pay attention. But most students can't. I have to train them to come prepared, to sit and listen, to collect paper in an orderly fashion, not to pass the buck, not to make "aside" smart remarks in the middle of an answer, not to poke each other with classroom objects, not to sharpen their pencils while I am talking, not to skip my class to look for a math book, to stay in their seats, etc. These are bad habits that I would expect my colleagues to fight against. But they are so pervasive I suspect that the kids are getting different instructions from different people.

Some of the things I've mentioned above are not bad under certain circumstances, but it is educationally unsound for children to get mixed messages. Teachers should get together more. One of the best books I have ever read on setting adolescents on the right road is *Tough Love* which correctly points out that "our" peer group will always lose against "theirs" unless we get together. French teachers need some of that kind of help. So do parents, and other teachers as well.

Moreover, if everybody worked together at developing a basic set of good work habits in a school, every teacher in that school would last longer before burn-out.

Laughter is often used as a camouflage tactic in an uncomfortable situation. Could this mean that kids are laughing at school because they are uncomfortable in it? And why are they uncomfortable? Because the work is too hard or because it is too easy? Because they respect the system or because they don't?

The teachers I remember best are those who taught me things which became useful in my life.

My best times are when I manage to teach a lot, when I have presented a well-planned lesson, followed by a well-planned exercise with no hidden traps, when everybody listened, and everybody learned, not a little, but a lot, when kids came up to me and asked (yes!) for a test.

People who think that today's kids are not as smart as we were are mistaken. They have figured out the system, and us. We need to do a better job of finding out their needs and skills, and of developing them. When all the auto-mechanics students who don't want to learn French are happily engaged in an auto-mechanics class, and feeling proud about what they are doing, our French classes will also be better.

The theory "Don't mark it wrong, lest you discourage the child" does not appeal to half as many kids as it does to educators. The kids want to know, or they'll let you know. After all, they love computers which refuse to respond if *even* a comma is left out.

The teachers I remember best are those who taught me things which became useful in my life. I dream of meeting an ex-student wearing a "I survived Dean's French class!" T-shirt — or better yet, one that says, "J'ai survécu les cours de français de Mme Dean" ☐

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INSTRUCTION

The "Like" Phenomenon

An introduction to dynamic instruction

Peter Gamlin and Linda Wilmshurst

Jason: I just don't get fractions.
Teacher: You're not listening. I've given you tons of examples.
Jason: But I still don't get it!

Saved by the recess bell, Jason runs into the school yard. Five friends run to meet him. Jason has only two licorice whips in his hand, but he quickly tears each one into three pieces and the boys share the candy.

Jason is unable to "get" fractions in the classroom. For him the rules are empty words. Yet Jason does use fractions and he is capable of learning. How can the teacher involve Jason in classroom learning? The answer involves linking Jason's personal world to the subjects discussed in the classroom, that is, in "personalized" learning.

Personalized learning is unlike "individual instruction" where the onus is on the teacher to adjust the level of instruction to meet individual needs. Personalized learning places the onus on learning, shifting the emphasis from teacher to child, from what is taught to what is actually learned. Through making use of the "like phenomenon," teachers can guide children in developing their own references which enables them to ground concepts in a framework that is meaningful and relevant to them.

The like phenomenon is an approach to learning which involves the linking of new information with experiences that are already familiar to us. When we say something new is like something we already know, we are attaching meaning to words in a way that impacts on our personal world. When we make comparisons between new information or concepts and previous experiences, we are able to ground concepts within a familiar framework. This not only provides a link with previous understanding but it also allows for the expansion of the old idea framework to higher levels of understanding. The onus is on the child to make meaningful connections; the teacher's role is that of collaborator or guide with his/her questions serving as a catalyst to the child's formation of "like" phenomena.

The like phenomenon is a learning strategy that children are already familiar with, although in all likelihood they are not consciously aware of its power as an aid to understanding. For example, when presented with the task to reproduce complex visual designs, some children will automatically attempt to liken the shape to a familiar form (e.g., it's like a rocket). Children who do this are better able to retain and discriminate new shapes. Children who do not automatically do this have not generalized the concept of likeness to assist understanding. They are not aware that making such connections can be used in most any situation. Questions generated by the teacher, however, pointing to "like" situations, may assist children in drawing from their knowledge base to make relevant connections. For example, when presenting a visual shape, the instructor may ask, "What does the shape look like to you?" "Can you think of other things that look like this?" "What else looks like this?" The teacher provides the structure for the student but it is the student who generates the list of comparisons. This is necessarily a collaborative effort between teacher and learner; this is dynamic instruction.

The "like phenomenon" involves the linking of new information with experiences that are already familiar to us.

Can dynamic instruction work for a classroom of children? We are certain that it can by bringing the like phenomenon into the classroom. Children are motivated to learn when the information presented is relevant to them, and the like phenomenon is a natural source of learning. Its repeated conscious application will result in an altered approach to learning. When children begin to exercise their ability to seek relevance for themselves in any given topic, the classroom becomes an environment of active learning and self-involvement.

Children spontaneously use the like phenomenon when they socialize. Initially functioning at an egocentric level, children define the world in terms of how their environment is like/not like themselves. Best friends are often described by listing similarities, for example, both like the same TV shows, the same colour, etc. Recognition of likeness and familiarity has long been acknowledged as the facilitator of social awareness through identification. In fact, modeling and imitation, early precursors to learning, are based on the premise of likeness and intercalating familiar patterns. Bringing the like phenomenon within the teaching/learning process then should be viewed as the natural way to learn, even though it is, in fact, a complex activity. The complexity of the process surfaces when we attempt to make "like" connections to concepts or information which do not lend themselves to automatic associations. Our memory searches for connections on these occasions. There does not seem to be a bridge between the old and the new and, like Jason, we don't get it.

Take the example of Mary who is an intuitive learner; one of those highly motivated students who actively reaches out to the learning process. Mary often participates in discussions, and many of her phrases take the form of "Oh, it's like … " "That's just like … " Mary grasps new information by linking it to knowledge she has acquired previously. She brings information within her frame of reference and grounds it in what she has previously learned. By providing new sources of information which allow Mary to expand her knowledge base in a series of connections increasingly removed from concrete experiences, the teacher is Mary's guide to higher learning. Mary uses newly acquired sources of information, themselves as "like connectors," for future learning.

There is a flow between teacher and Mary — they are involved in dynamic instruction. When Mary encounters a gap be-

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tween new information and previous knowledge, she is assisted by her teacher who brings attention to the like phenomenon and generates a series of questions which point the way to a link — "What is this like?" "What does it remind you of?" In the majority of classroom situations, when the lesson has reached this point, the teacher ordinarily generates a series of examples, which rather than activating the child's ability to make connections, are relevant to the teacher's experience. Through collaborative effort, Mary is guided toward bringing an abstract concept within *her* grasp by linking it to an example which has a reference point within herself.

What of the remaining students? The Jasons? How can they be involved in active learning? Before providing the answer, there is an additional question that must be explored. What level of involvement should be anticipated from children who do not learn well in classroom settings? Mary is a motivated learner. Jason does not *see* the relevance of the classroom situation and is not interested in making connections which might require considerable effort. Jason comes to school because he has no choice. He is bombarded with "useless" information. The teacher provides many examples in an attempt to lure Jason into learning. Perhaps one of her examples will strike a familiar chord. This is a noble effort but the examples become additional information which Jason cannot relate to, and consequently they fail to have their intended impact.

Recognizing that children differ widely with respect to their experiential base, it is not surprising that the teacher may not be able to provide suitable examples for each child. They key to involvement is, again, the child's participation in making connections, using the like phenomenon. By generating questions — not examples — which probe the child's experiential base, the teacher can guide the child toward learning new concepts. Since each child provides his or her own examples, an entire classroom can become involved in generating examples. And once children have recognized *how* to make the like phenomenon work, the teacher's questions can serve as an impetus to get all the children thinking.

The most obvious area of academics which requires the use of the like phenomenon is Reading Comprehension. Has the child made any connections between the passage read and his own personal world? If not, he has merely recognized the word without attaching meaning or relevance to what the words are saying to him in particular. "What did the character feel like?" "Have you ever felt like that?" "How are your responses alike?" The teacher takes a Socratic approach, extracting responses from the child which form connections between the information presented and the child's own experiential base.

Teachers are continually frustrated by the child's lack of generalization.

History and Social Studies often involve issues of conflict, and consequently discussions often centre on *differences*. In response to questions of "contrast and compare," children at the junior level are far better at listing differences than at drawing similarities. However, our contention is that unless "like" connections are formed the child is not ready to approach a discussion of differences because differences are only recognized once likenesses are formed. Just as the formation of interpersonal relationships entails a focus on common likes and dislikes, learning entails an initial focus on similarities.

A history lesson on the war between Upper and Lower Canada should not focus initially on how the background of people in these areas *differed*, but on how it was the same. "What would it be like to live in Upper Canada with a best friend living in Lower Canada?" "How are the two friends alike?" "Have you ever felt like this?" Through initial projection and identification with key elements, the child construes associations which serve to activate his or her own frame of reference in the learning process. The teacher's questions become the impetus for involvement, and the child is actively drawn into the learning experience.

The child involved in earlier discussions of the war between Upper and Lower Canada can now draw on his information base for future discussions concerning the Civil War, political parties, customs and cultures, etc. The child can *generalize* or *transfer* this information to new information which is like that previously acquired. The child moves further and further from self-reference to learning which builds on previous learning.

Teachers are continually frustrated by the child's lack of generalization or transfer of learning across lessons, or across subject areas. The child may have merely committed the initial concept to memory without understanding it. Consequently the concept is forgotten. It is also possible that some children are not aware that they can use the like phenomenon to relate information across subject areas. They may not recognize that patterns and systems can be compared with each other through "like" connections. Information previously acquired in Geography may serve as a foundation for a History discussion. Since subjects are often taught as discrete units, children may feel that they are restricted to a particular unit for their information base and start all over when a new unit is presented. Awareness that units are part of the whole may be all that is necessary to activate learning based on how the present information is "like" that previously learned. Comparisons between subject areas (History/Geography; Science/History) provide fruitful grounds for discussion concerning the interrelationships between information and encourage the expansion and flexibility of forming associations.

The like phenomenon is a powerful source of learning. With the teacher as guide/collaborator, the child can actively construct his or her own bridge to fill the gap between teaching and learning in a meaningful and relevant way. Dynamic Instruction is the key to active and personalized learning — learning that is inherently creative because it continually expands, "like this, like that." It is like opening the door to discovery. ☐

PART TWO OF A THREE PART SERIES

Photos by Humberto Solar

Will SCIENCE Be Happening HERE?

Science curricula in Ontario schools have undergone major changes in recent years. Are these changes going to improve the standard of science education in the classroom, especially at the elementary level?

Part One of John Mazurek's series, published in the April issue (Vol. 20, No. 2), explored the benefits and limitations of establishing a junior level science curriculum on the basis of problem-solving skills and student-generated topics. Part Two, published here, deals with the place of required content in intermediate level programs. Part Three, to be published in the February 1990 issue (Vol. 21, No. 1), will compare the Ministry of Education's much publicized document ***Science Is Happening Here*** *with previous Ontario initiatives in science education and suggest ways to improve it. In all these articles, Mazurek struggles to define a balance between the teaching of "process" and "content" at the elementary level.*

John Mazurek

In the early eighties, The Science Council of Canada observed the ways in which science was being taught and learned in various parts of the country at different levels of the school system. Some conclusions that it reached after studying Ontario's intermediate programs (Grades 7 through 10) were telling:

> "It may be the case that the way in which the core units of the guideline are set out creates for [the teacher] a view of the subject as a body of facts to be transmitted. The emphasis on mandatory units, mandatory topics and required terminology may carry such a message. The guideline seems to say: 'Here is how the subject is to be carved up; these are the key pieces; here is how long they take; here is what to stress; here is what you should get across.' ... Certain educational values are also built into the very structuring of the material itself. Perhaps one important value is that the students may come to see themselves as having no responsibility for the knowledge they hold, because the knowledge is being passed on as text to be learned, rather than as lessons in, for example, the nature of scientific knowledge." (Science Council of Canada, 1984, p. 82)

The dilemma of the subject/discipline orientation is evident in these comments. A conceptual base in science is seen as necessary for problem solving in scientific contexts. But in the drive to provide that foundation, which is vast and complex in its own right, the essential problem-solving character of science is obscured. Students fail to see a connection between their own problem solving and the formal study of concepts; they rarely get time to *use* the framework that is being handed to them.

If the Science Council study is at all accurate (see Russell, 1983), how did the scientific ways of thinking get to be so distorted at the intermediate level? Have things changed since the early eighties? Is there a way to avoid the pitfalls of a subject-based approach? If so, can we apply this knowledge to the junior level of elementary schools?

The Science Council's conclusions were based on Ontario intermediate level science classrooms influenced by Ministry curriculum guidelines (see the Ministry document *Science: Curriculum Guidelines for the Intermediate Division, 1978*). As John P. Miller (1983) notes, the guidelines emphasized, above all else, the transmission of a scientific framework — concepts, facts, and techniques particular to this knowledge field. In a list of 15 aims, the first 2 mentioned are, "to gain a breadth of experience in the fundamentals of science," and "to understand scientific facts, definitions, con-

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cepts, principles, laws, models, and theories." Aims which relate to actually using these items in an inquiry are relegated to a lower standing on the list. In fact, when they are listed ("to collect and process data"; "to design methods of experimentation"; "to improve techniques of inquiry"; etc.) they are written in such a way that they seem to be mere vehicles for the presentation of fixed content.

An example of this approach to science teaching would be a classroom experiment conducted to produce a result verifying a particular law of motion. Everything about the outcome would be known ahead of time for the procedure is just a means for presenting the law. The investigation would hold no purpose for the learner for it is the teacher's purpose (i.e., to teach the law of motion) that is being met. And because the principal aim is the transmission of this content, the experiment itself (or more accurately the "demonstration") is construed as the fulfilment of "lesser" process-directed aims — to improve techniques of inquiry and laboratory investigation, to design methods of experimentation and testing, to collect and process data, etc. Repeated over a number of years, this scenario leads one to view scientific experimenting and problem-solving as a charade.

John Dewey would have seen such outcomes predictable in a classroom situation where students' life experiences are not used as the principal guide for subject-matter selection. He even anticipated the confused equation of "scientific method" (i.e., problem solving) and "practice in laboratory research techniques" seen in the example above. Dewey resisted the temptation to provide an "objective" curriculum because he thought that the learner's interest becomes secondary in such schemes. The essence of education, according to Dewey, was "vital energy seeking opportunity for effective exercise." Content which is pre-selected and pre-arranged on the basis of an adult judgment of what the learners should know about a "knowledge framework" is antithetical to this conception. In the case of the 1978 guidelines, this assessment seems to hold. The last three aims — "to develop attitudes of curiosity and interest," "to relate science to career opportunities," "to cultivate an active concern regarding such issues as ..." — would probably be at the top of Dewey's list.

Does this mean, then, that the subject/discipline orientation is irreconcilable with Dewey's view of the active, interested learner? Dewey himself knew the importance of organization and continuity for study and learning. But can the subject-matter model provide these elements without ignoring what is essential — the students' sense of purpose in the enterprise?

During the late fifties and early sixties, Jerome Bruner and others attempted to develop curricula which balanced student "discovery" with the formal exposition of principles or general ideas. They felt that subject content could be streamlined with the help of experts in various disciplines who would be able to explicate the frameworks and the central concepts of their respective fields. In turn, this would cut down on the unnecessary content that students were required to absorb. The "discovery opportunities" made available to students would allow them to think about a given problem in their own ways. The teacher would then lead them to see the central concepts of the discipline inherent in their own problem solving (see Miller, 1983, pp. 38–41).

The key word in this approach is *given*. If the problem is manufactured for the students without their having an authentic stake in it, problem solving will be again a charade. Much depends on how structured the discovery opportunities are.

Requiring too close a tie-in between central concepts and discovery opportunities prevents the teacher and students from deciding on a meaningful problem for inquiry. If, for example, the children in my class aren't interested in knowing why a tin can collapses under certain conditions, and if I as the teacher require that they consider this question because my curriculum guide says that "the 'collapsible can trick' will stimulate the class to formulate their own conceptualizations of air pressure," the children will be problem solving in name only. On the other hand, if there is too loose a fit between discovery opportunities and the framework, it may be difficult for me, as the teacher, to keep up with the particular questions and concerns of all my students and to see how each individually can be related to broader concepts in the field. Over a period of time, student problem solving will stagnate because the ideas inherent in their previous work have not been sufficiently developed and challenged.

Bruner himself initially favoured an approach which completely programmed discovery situations. Students were to accommodate themselves to "problems" designed to elicit certain conceptual understandings. This attempt to structure student problem-solving was abandoned, though, because of the incompatibility between the processes of inquiry and pre-programmed instruction. Perhaps Bruner's model would have worked better if he had allowed for some choice in the discovery situations. At minimum he might have anticipated two things: (a) a range in student/class interests and experience, and (b) possible connections between problems relevant to learners and the general principles of the subject/discipline.

In 1987, the Ontario Ministry of Education released a new set of guidelines for intermediate level science. This initiative seems to recognize the problems inherent in the 1978 document, namely that there has been a lack of genuine scientific problem-solving in the classrooms, and that science has been presented as a body of predetermined facts.

The 1987 guidelines try to strike a new tone. The first three aims emphasize "an understanding of the processes of science" (identifying a problem, hypothesizing, observing, classifying, communicating, inferring, etc.), "skills essential for participation in scientific work and technology," and "facility in problem solving" as top concerns. The document also defines the nature of science as "tentative," "probabilistic," "imaginative," and "integrative" — terms which discourage the impression that it is simply a static monolith of facts. The 1978 aims suggested that the learner was primarily a receiver of knowledge. The 1987 aims are more in keeping with Dewey's understanding of the learner as a dynamic inquirer.

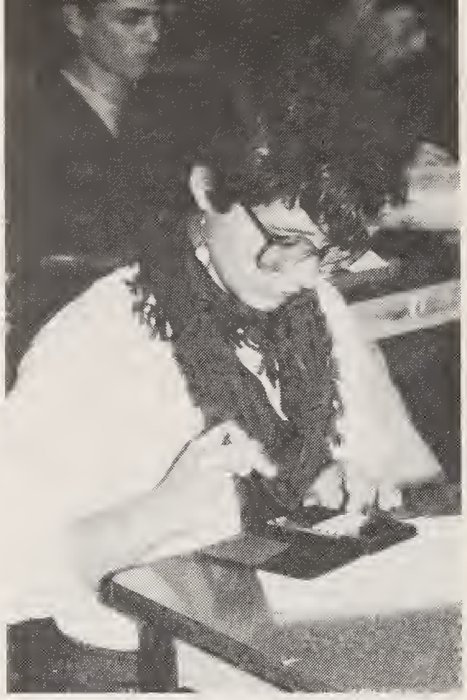
However, these aims do not constitute, in themselves, a new curriculum for intermediate science. As the document says, it is in the blending of the aims with content (i.e., with the specific ideas, skills, and techniques which form a framework for scientific investigation) that a list of curriculum emphases can be developed. Already we have seen that this blending process can be difficult. Bruner suggested "discovery" as an aim, but his programming of content did not allow for it. Is *Science, Intermediate and Senior Divisions, 1987* any different? Does the notion of the learner-as-dynamic-inquirer really fit with what the document expects in the way of topics to be covered and learning outcomes to be achieved?

In her book, *The Pupil As Scientist?*, Rosalind Driver offers a standard by which we might answer these questions.

> "If the orientation of science in general education is to help pupils develop a theoretical understanding which enables them to interpret and make sense of everyday experiences ... it means selecting illustrative phenomena not simply because of the support they give to a theoretical idea, but because they are of practical use and everyday interest in their own right. It also means bringing the theoretical ideas within the compass of the students' understanding." (1983, p. 80)

According to this standard, topics which introduce scientific concepts or skills can be given to the students by the teacher, but only if they have relevance to their everyday life. In other words, there must be a reasonable assumption that the student will be motivated to pursue the topic. At the same time, the concepts and skills introduced by the topic must correspond to the student's cognitive and social development. If these criteria are met, there is a strong likelihood that the topic will promote the student's active inquiry *and* build his or her knowledge foundation in a specialized science. In this way, the process/content dualism is eliminated.

When we examine a required topic in the Grade 8 section of the 1987 document, we



have initial grounds for optimism. The topic "Force, Work, and Energy" seems to have relevance to the everyday world. It is expected that students will gain "objectivity in evaluating the effects of machines on society" and "an appreciation of the relationship among science, technology, and society in regard to machines and the energy required to operate them." It is stated that students should "solve straightforward and meaningful problems." The students are given opportunities to employ a variety of measuring and graphing skills.

Enthusiasm wanes, however, when we analyze other aspects of the unit's requirements. Three areas of concern stand out. First, the number of intended knowledge outcomes is too extensive. Following the phrase "students will be expected to," there is a list of no less than 11 items. These include mastery of straight facts (e.g., "realize that the force of gravity acting on a 1 kg mass is approximately 10 N") and definitions (e.g., "explain that if there is a change in the motion or shape of an object, there must be a force working on the object and that when a force moves an object through a distance, work is done"). The demand of acquiring so many ideas at once mitigates against actual discovery. Introducing the required concepts within activities of particular interest to the class at hand becomes almost impossible. The teacher scrambles to meet the demands of "the list," and survival strategies, like the formulaic "experiments" described earlier, become the norm.

A second area of concern is lack of time for the unit. The document suggests that "Force, Work, and Energy" can be covered in approximately 16 class hours. The direct student investigation necessary to obtain the intended learning outcomes would take much longer than that. Active scientific inquiry involves identifying problems, hypothesizing, classifying, inferring, communicating, and so on, processes which cannot be rushed. And such inquiry is, as we have seen, supposedly a chief aim of this document. Why, then, are only 16 hours allocated for a long list of learning objectives?

The time constraints are dictated by the quantity of "knowledge" or "content" which must be covered over the year. The implication seems to be that "understanding of the processes of science" and "facility with problem solving" (i.e., the stated priorities) are less important, or that they are not necessarily tied to a proper grasp of *all* aspects of science. This is certainly a position that no working scientist could accept. It is the kind of thinking that Dewey rejected as a distortion of knowledge. So we are left to wonder which concepts of "force", "work," and "energy" will receive cursory treatment in the classroom. Can a fact like "the force of gravity acting on a 1 kg mass is approximately 10 N" have any meaning at all if it is hurriedly memorized from a blackboard or a textbook? As Drive points out, "where activities are intended to illustrate some concept or principle, then [extra] time is required for pupils to consider their results and generalize the findings to new situations" (1983, p. 83).

A third drawback to the unit is that it assumes that the students are capable of understanding concepts which, in some cases, are beyond them. In an extensive study of British adolescents, Shayer and Adey found that only 15 to 30 percent of 13- to 16-year-olds were capable of what Piaget calls "formal thinking" (1981, p. 9). Formal thinking involves the ability to compare reality to an independent set of rules or assumptions. It is required when a causal explanation cannot be directly observed, or whenever we need to devise a mental model in order to comprehend what is going on. To understand that a top will wobble when its spin slows involves concrete thinking; a direct mathematical relationship can be seen between the frequency of the spin and the frequency of the wobble. However, to explain *why* the spin eventually slows and the wobble increases involves more than our senses can tell us. Mentally, we must construct a rule to explain what has happened, and this is formal thinking. It is perplexing that knowledge of such a rule — "explain that if there is a change in the motion or shape of an object, there must be a force working on the object" (see p. 34 of the 1987 guidelines) — should be expected from Grade 8 students, the majority of whom may not be ready for such reasoning. Students' misconceptions about the nature and relevance of scientific laws and principles are bound to proliferate under these conditions.

In three ways, then, we can see that a typical core unit from *Science, Intermediate and Senior Divisions, 1987* does not really live up to its stated aims. Respect for the inherent processes of science, for its problem-solving character, its tentative, empirical, and integrative nature, has again been overlooked. By expecting a great depth and quantity of knowledge to be gained over such a brief time, the units impose a "scientific content" on the learners which ignores what is essential in science. In the rush, little regard is given to matching the complexity of the concepts introduced with the developmental limitations of the students. Despite its best intentions, the 1987 document ends up with many of the same shortcomings as the 1978 guideline.

If science in the junior division (Grades 4 to 6) is to avoid the pitfalls, a way must be found to allow for fewer time constraints on student inquiry. There must also be more appropriate expectations for learning outcomes. Our expectations need to be compatible with our students' cognitive development. Furthermore, a more explicit connection must be made between science topics which are relevant to the everyday world and specific activities which are adaptable and, therefore, relevant to the interests of specific learners.

In the last article of this series (forthcoming February 1990), I will examine how Ministry documents concerning junior science have responded to these challenges during the past two decades. ☐

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How Secondary School Teachers Change Their Classroom Practices:

SOME PRELIMINARY FINDINGS

Ron Wideman

How do secondary school teachers change their classroom practices? The question becomes more immediate given the recognition of the Teacher Education Review Committee that teacher education is a lifelong activity (see McConaghy, 1989) and the investigation of some school systems into basing teacher evaluation on professional growth. But relatively little is known about how secondary school teachers change their classroom practices. There seems to be no comprehensive theoretical model although there is much in the literature on adult education and on learning and change in other professions.

One problem in understanding how change occurs for teachers is that most of the research has been conducted from the perspective of those who develop curriculum innovations and in-service methods. What these studies lack is the perspective of the teacher. There are few studies from this perspective and fewer which describe the secondary school teacher's own experience with learning and change.

My thesis study at OISE explores the experience of teachers who have made some substantial change in their classroom practice. Essentially, I ask teachers "How did you go about making your change?" "What helped you?" "What hindered you?"

In preparing the study, I conducted pilot interviews with two secondary school teachers. The story told by these two teachers is intriguing and raises some excitement about what the larger study may find.

Changes in Practice

Both teachers were secondary school English specialists who had achieved substantial changes in classroom practice — one over a ten-year-period and the other over four. The changes, which required considerable effort, were consistent with the "Thirteen Goals of Education" for Ontario.

One had moved from classroom activity which emphasized academic learning to activity driven by student life skill needs. Ongoing assessment was used to develop a program to meet these needs. Students were encouraged to think on their feet rather than on paper.

The other had moved from carefully planned presentations and Socratic methodology to discovery-based learning activities which involved students teaching students. She had developed a new focus on prior student knowledge, feelings, and experience and on integrating new knowledge through discussion, interaction, and drama.

For both teachers, change in practice was accompanied by profound change in educational philosophy. Both teachers became student centred in their thinking, aware of the need to develop self-awareness and to empower students. Both developed a profound belief in the ability of students to reach their potential.

For both teachers, change in practice followed similar patterns. The process began with a "triggering experience":

"I was teaching Dylan Thomas's poem *Fern Hill.* I had developed what I thought was a marvellous lesson around the poem. I gave background information. Then I read the poem, a beautiful, dramatic reading. I was crying at the end. And then I did a carefully structured analysis of the poem, of the imagery and all those things. I asked a lot of questions and I was getting good answers.

... by the end of the lesson, I really saw something very different in the poem than I had seen at the beginning. And I was so excited and so elated at the end; and the class was over and the kids started walking out and I was feeling this sort of ecstasy of insight about the poem, and at the same time, I was struck by the lack of ecstasy in the faces of the kids."

The teacher was puzzled and concerned by the discrepancy between her experience and what the experience held for the students. The methods she had used to teach the lesson were held in high regard in the profession. Yet the lesson had failed to create any opportunities for discovery or excitement among the students. At the same time she experienced an insight about teaching which provided a starting point for change in her classroom practice. That insight, she remembers, was a "gut level reaction." She had learned something about the poem by teaching the poem to others. "Teaching is a learning experience," she thought. "I want my students to be learners, so I've got to somehow arrange for us to switch roles. I've got to be a very effective teacher, paradoxically, by arranging for my students to become effective teachers of themselves."

Phases of Change

Beginning with the insight arising from the triggering experience, both teachers seem to have undergone a change process which involved three over-lapping phases — an intuitive phase, a validation phase, and an extension phase.

In the intuitive phase, both teachers groped for ways to deal with the concern raised by the triggering experience. Experimentation was the norm. While searching for answers, as if for pieces of a puzzle, they turned to previous experience. But the worth of their experiments was gauged by the responses of students.

The intuitive phase was marked by inner conflict. Excitement was set against uncertainty about the educational worth of the ideas that were emerging. Part of the uncertainty was caused by the fact that the changes were not fully understood. One teacher remembers not being able to anticipate the pitfalls of an activity. The other recalls not being able to give guidelines for an audiovisual presentation because she herself did not know what they might be.

Lack of support from colleagues aggravated the inner conflict. One teacher describes how difficult the first years of change were. "My husband thought that I would leave teaching. I would come home terribly excited about teaching and very depressed." The excitement came from the positive responses of students. She knew that she was doing the right thing because of the kids. "There was this pressure," she remembers, "to keep seeing that light go on in kids' faces. So that was very exhilarating." The depression came from the lack of support of colleagues who rejected the educational worth of her evolving program.

Lack of support from colleagues aggravated the inner conflict.

In the validation phase, inner conflict was resolved and confidence grew. Validation came initially from students and later

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CHANGE PROCESS FOR TWO PILOT TEACHERS

Triggering Experience

- in response to students
- disparity between what was expected and what occurred
- surprise, puzzlement, concern
- "gut-level" insight

Intuitive Phase

- intuitive groping
- experimental, trial and error learning
- answers sought in previous experience
- success gauged by reactions of students
- inner conflict
- sensitivity to criticism

Validation Phase

- validation of changes by students, colleagues, system
- more systematic and formal search for knowledge
- growing theoretical framework provided confirmation
- inner conflict resolved
- confidence increased

Extension Phase

- application in contexts beyond original
- desire to promote change in other teachers
- system provided opportunities
- learning included how to promote change in teachers

from colleagues and the school system. There was continued development and increased understanding of the changes. The search for formal and informal in-service activities increased and became more systematic. As pieces were pulled together, a theoretical framework was articulated which provided further confirmation.

Validation by colleagues seemed particularly important to both teachers. One teacher describes showing a videotape she had made of students participating in a role-playing activity to teach negotiation skills:

"A lot of staff were very negative. They felt that a lot of what we were doing was Mickey Mouse because we didn't do the traditional academic things. Having the staff watch that videotape changed a lot of people's ideas about what was going on and convinced them of the validity of what we were doing. I felt quite vindicated but also very happy. A few teachers recognized that there are skills that very often we don't even tap in students, and that if you confine students to paper and pencil, you're just not tapping into the richness that is there."

For the other teacher, moving into the validation phase was helped by moving to another school. She remembers the differences in the two schools. The first was constraining and critical. There were answers for things. At the second school there were questions, a feeling of adventure, of experimentation.

In the extension phase, both teachers applied the change and the emerging educational philosophy in contexts beyond the original. The first extension was to their own classes. As confidence increased, they realized that the changes had an application in other subject areas. A desire to promote the changes among other teachers emerged: "If you walk around the collegiate corridors and look in the windows you see the teacher sitting and sometimes standing at the front of the room giving the lesson, and the kids, like my little kids back there doing *Fern Hill*, are sitting in their seats taking notes or copying from the board or listening to the teacher. You don't very often see them talking to each other, interacting, sharing what they've learned , discussing new concepts to ensure that they have in fact processed in their own language what they have learned. And I think it's even more vital in subjects like math and science, where the concepts are so abstract, that they have this opportunity to internalize the information."

Both teachers received promotions during the validation phase which afforded them opportunities to have an impact on other teachers. Their professional learning activity increasingly includes the problem of how to promote change.

Models for Professional Growth

Currently there are two quite different perspectives on education and development in the professions. The older of the two is the model of technical rationality — the positivist epistemology of practice which has shaped professional education for 100 years. This view sees professional activity as instrumental problem-solving made rigourous by the application of scientific theory and technique. Within any profession there are two primary areas of specialization, the substantive field of scientific knowledge which forms the basis for professional activity and the technique of applying that knowledge in the practical setting (see Lessard & Sturgeon, 1981, p. 21).

Research, Development, Diffusion, and Adoption (RDD&A) approaches to curriculum change are based on the model of technical rationality. Classroom innovations are developed by experts and then adopted by teachers. Traditionally, RDD&A approaches have focussed on research and development and paid far less attention to the adoption phase. This lack of attention has contributed greatly to the ineffectiveness of many curricular change initiatives.

More recently, therefore, there has been increased interest in the adoption or implementation phase. For example, Fullan and Park have recognized that change involves teachers in a process of learning and socialization over time (1980, p. 5). Three kinds of learning are associated with change in classroom practice — learning to use new or revised teaching materials, learning to use new or revised teaching approaches/strategies, and incorporating new or revised beliefs (pp. 6–8).

The second and more recent perspective considers the model of technical rationality inadequate. According to this view, professional activity involves more than instrumental problem-solving because the problems are often unclear, values in conflict, and solutions not "in the book." There are many conflicting theories which must be taken into account.

Schon offers a new epistemology of practice which is implicit in "the artistic, intuitive processes" which practitioners bring to situations of uncertainty, instability, uniqueness, and value conflict (1983, p. 49). This epistemology represents a paradigm shift away from technical rationality to reflection in action — a model which links "the art of practice in uncertainty to the scientists' art of research" (p. 69).

Hunt applies thinking like Schon's to teacher education. He argues that teachers do not change their practices by adopting curriculum innovations developed by experts outside the classroom. Instead, they change through an "inside-out" process by which the teacher clarifies his/her own personal theory of practice and modifies it in the light of experience and knowledge to meet felt needs and professional concerns. Hunt sees efficient practice as preceding theory (1987, p. 3). He presents an image of the relation between theory and practice which begins with skilled performance by the practitioner. Change occurs through reciprocity between equals, practitioners and theorists, working on particular problems (p. 126).

The process of change described by the two teachers in the pilot study seems to reflect the thinking of Schon and Hunt. Neither adopted a particular change in practice which had been developed by an outside expert. Rather, change involved creation over time of a personal approach, involving both practice and theory and inspired by professional concerns.

> *Change involved creation over time of a personal approach.*

Once the triggering experience occurred, both teachers seemed internally driven to change and, in fact, actively overcame obstacles set in their way. Freedom to experiment was important as was being part of a department which supported and appreciated the innovation. Also important were the availability of a wide variety of professional education options and recognition in the form of promotion which brought opportunities to contribute to school and system-wide initiatives.

Facilitating change in secondary schools may require that we understand better how triggering experiences occur and how to support, encourage, and validate the learning process which follows. The pilot study offers glimpses of how two teachers changed their classroom practices. With a broader source of information (involving 54 questionnaires and 14 interviews), the major study promises much more. Completion is expected by September 1991. ☐

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REFLECTIONS ON TEACHER EMPOWERMENT

Duncan Appleford

For years now I have been a business book junkie. Whenever I think that the school as an institution is unchanging and unchangeable, I reach for a book like Naisbitt and Aburdene's *Re-inventing the Corporation* (1985) which tells me to "accept the challenge of re-inventing education," thus giving me the fix I need. Whenever I suspect that my criticism of the way schools are run stems from a personality disorder, I re-read some of Tom Peters who in *Thriving on Chaos* (1987) enjoins me to "become an emotional, vociferous, repetitive, public hater of bureaucracy," and I feel better. Mainly, though, these books fulfil my need for vicarious experience: I love success stories that feature management and employees working together. I read for clues as to how it is done.

The book that hooked me was Peters and Waterman's *In Search of Excellence* (1982) which shows that the best companies pay attention to basic human needs in organizations: the need for meaning, the need for a modicum of control, and the need for positive reinforcement. In this and in subsequent books the manager's relationship to employees is fundamental: "The role of the leader is one of orchestration and labeller: taking what can be gotten in the way of action and shaping it — generally after the fact — into lasting commitment to a new strategic direction."

The fact that educational reform literature is now full of references to the principal as a "value promoter" and to teacher empowerment can be attributed to the inspiration that *In Search of Excellence* has provided.

Michael Fullan acknowledges the congruence of his ideas to those of Tom Peters's in his own monograph, *What's Worth Fighting for in the Principalship?* (1988). He offers ten guidelines for self-empowerment which include the following:

- practise fearlessness and other forms of risk taking
- empower others below you
- build a vision in relation to both goals and change processes

Principals who behave in this way establish a climate of experimentation for those whose vested authority is considerably less than their own and for whom risk taking is more difficult.

Although Tom Peters suggests that the manager is the only position that matters, Michael Fullan emphasizes the importance of a "change facilitating team." Since teacher empowerment involves a change in status, the fewer the layers between the principal and the teacher the better.

The present school organization of heads and assistant heads is too large to function as an effective team and too small to function as an empowered group of teachers. Often the empowering principal "structures leadership teams based on available resources and situation-specific needs rather than formal titles or positions," in other words, ignores or bypasses the official organization.

Research indicates that teachers have the same basic needs as those employees identified by Peters and Waterman. They want more meaningful involvement in decision making, particularly in management areas:

- determining the administrative and organizational structure of their school
- setting and revising the goals of their school
- determining procedures to be used for the evaluation of teachers
- selecting department chairpersons or team (unit) leaders
- evaluating how well their subject departments or teams (units) are operating
- hiring a new staff member to teach in their subject department or instructional level

Teachers who have experienced empowerment see the need for more knowledge. They also find that the process breaks down isolation among teachers. They become supportive, critical, and enthusiastic; they see the need for more staff and for personal development. Such teachers can empower their students, the ultimate test of the value of teacher empowerment.

How do we get there from here? The excellent companies literature is not much help in terms of specifics but educational research provides some direction. Our board is investing its resources in training teachers as coaches. They are using a systems approach, beginning with the training of principals and vice principals, then selected department heads. This approach has great potential for breaking down the isolation of teachers from each other at the staff development stage.

Educational reform literature is beginning to provide its own success stories of empowered principals and teachers. It does not rival the excellent companies literature for visionary power, but what has emerged is a growing consensus: teacher empowerment through improved status, increased knowledge, and greater access to decision making is essential if schools are to improve. ☐

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SCHOOLS

Queen Elizabeth District High

A profile of a small secondary school

John Davis

Sioux Lookout is a small town of 3,500 in Northwestern Ontario. It is essentially a railway town and, as a result, somewhat off the beaten track. My visit there had been to conduct some interviews in the local high school as part of my ongoing research on the topic of small high schools.

Queen Elizabeth District High School is one of approximately 260 small high schools in Ontario. With an enrolment of approximately 450 students, it falls nicely into the category of "small" which in Ontario is defined as less than 600 students. At the same time, it is larger than 300, a figure often set as a distinct sub-category of small. In either case the figure is somewhat arbitrary, relating more to a school's ability to offer a comprehensive program than to the actual number of students enrolled. As in any other Ontario secondary school, the core program is mandated by the Ministry of Education. Courses must be available at the basic, general, and advanced levels. Sixteen out of the thirty courses needed to obtain a Secondary School Graduation Diploma are mandatory, a regulation that commits the larger portion of the school's resources, leaving it with limited scope to mount optional programs.

Because of its isolation, Queen Elizabeth is unable to engage in co-operative ventures such as pooling teachers or resources with other high schools. However, it does enjoy a good relationship with its feeder schools, providing them with facilities for shop and family studies programs. The shop teacher comes from the elementary school; the family studies teacher is on the high school staff. This exchange of teaching personnel varies as the need arises. Isolation also prevents the school from engaging in an extensive extramural sports program, although a small extramural sports league does exist among the high schools in the area.

Queen Elizabeth is somewhat different from many other small schools, and I had only to step through the door to realize the difference. Many of the students moving between the classrooms were native Canadians and although they make up a minority of the school population, the whole building bears the stamp of their presence. In fact, 30 percent of the students are native Canadian. They come from fly-in communities as far away as 350 miles and live in either a native residential setting outside of town or board in private homes.

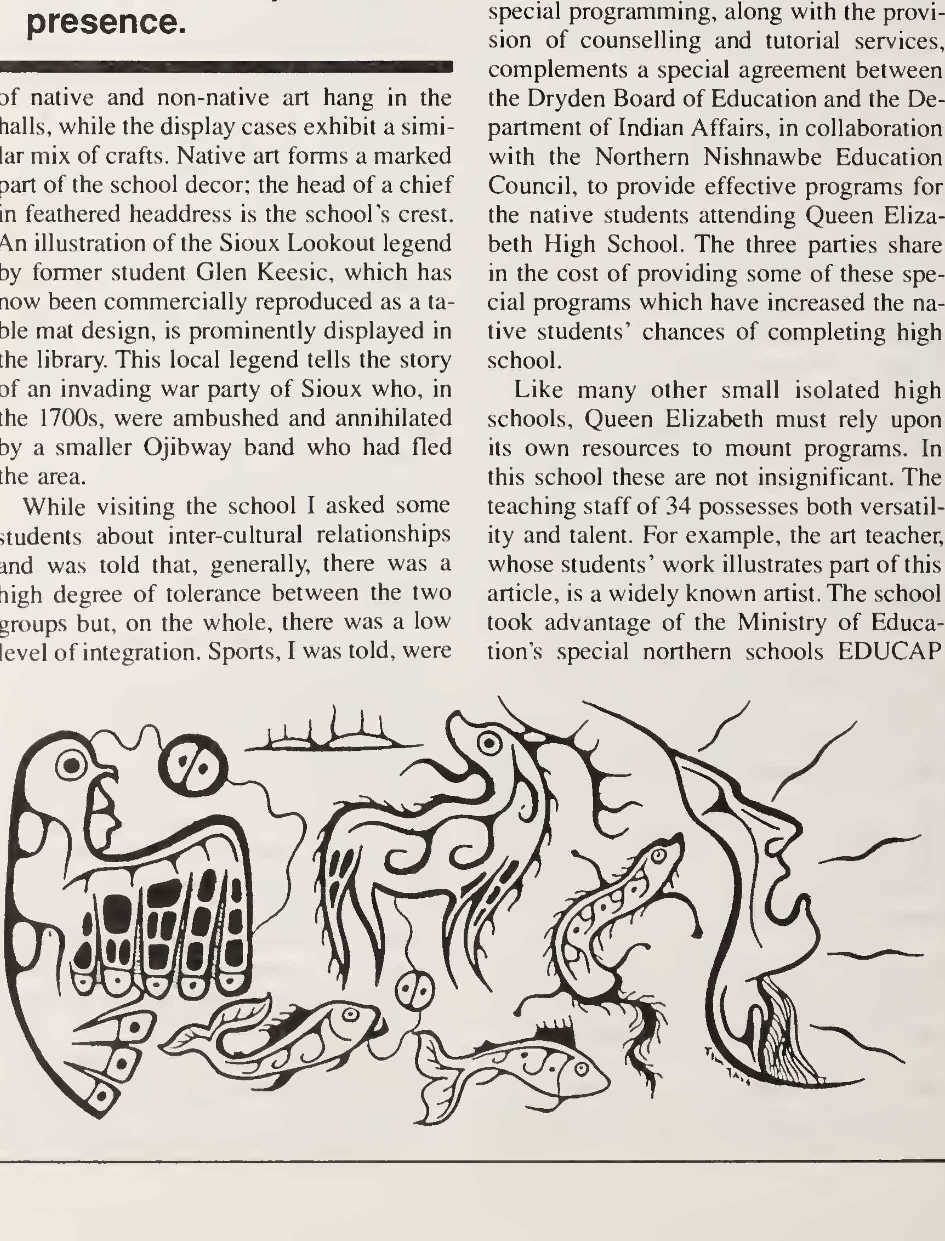
The cultural mix of the school creates a distinctive atmosphere. Striking examples of native and non-native art hang in the halls, while the display cases exhibit a similar mix of crafts. Native art forms a marked part of the school decor; the head of a chief in feathered headdress is the school's crest. An illustration of the Sioux Lookout legend by former student Glen Keesic, which has now been commercially reproduced as a table mat design, is prominently displayed in the library. This local legend tells the story of an invading war party of Sioux who, in the 1700s, were ambushed and annihilated by a smaller Ojibway band who had fled the area.

... the whole building bears the stamp of their presence.

While visiting the school I asked some students about inter-cultural relationships and was told that, generally, there was a high degree of tolerance between the two groups but, on the whole, there was a low level of integration. Sports, I was told, were the most successful in bringing the two groups together. Attracted by the noise from the gymnasium, I entered and watched a vigourous game of basketball with players from both cultures co-operating well and mightily to try to beat their opponents. This spirit of co-operation, so evident on the playing floor, does not necessarily spill over into other areas of the school program.

Some academic classes are composed solely of Native students. This procedure has greatly increased the retention rate of native students and, at the same time, allows teachers to work more closely with the students and provide remedial upgrading. This, in turn, has assured a greater degree of success in following years. The special programming, along with the provision of counselling and tutorial services, complements a special agreement between the Dryden Board of Education and the Department of Indian Affairs, in collaboration with the Northern Nishnawbe Education Council, to provide effective programs for the native students attending Queen Elizabeth High School. The three parties share in the cost of providing some of these special programs which have increased the native students' chances of completing high school.

Like many other small isolated high schools, Queen Elizabeth must rely upon its own resources to mount programs. In this school these are not insignificant. The teaching staff of 34 possesses both versatility and talent. For example, the art teacher, whose students' work illustrates part of this article, is a widely known artist. The school took advantage of the Ministry of Education's special northern schools EDUCAP



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grants to install an excellent computer laboratory. There are, as well, a well-equipped music room, modern and attractive shops, a computerized office system, and a pleasant and well-stocked library.

To offer this variety of courses, the school has had to combine levels of difficulty, offering combinations of basic-general or general-advanced level classes; other classes are formed by combining grades. Still other courses, mostly those in the senior levels, are offered in alternate years. A few students earn credits by taking courses from the Ministry of Education's Independent Learning Centre; at least ten credits were earned this way last year. A very popular option for students in their last two years of school is the co-operative education program which offers about 30 placements annually with local businesses. Students enjoy the combination of the school-workplace environments, and frequently a successful co-op placement leads to a job after graduation.

The variety of learning experiences (and the fact that not all of those experiences are available every year) creates an important role for the school's guidance department. Student course selections are carefully monitored and students are counselled individually with respect to their program choices to make sure that necessary subjects are taken and that, wherever possible, students' choices of electives are honoured. In interviews, and on questionnaires (60 were completed), students told me that their program choices could usually be met and that only rarely were they unable to get the courses they wanted. Most of those courses were in the area of arts and sciences. Seventy percent of the students selected courses from this area while another 20 percent made business courses their first choice; the remaining students were primarily interested in technical subjects. Approximately half of the students indicated that although they were not able to get their first choice of options, falling back to a second choice would not inhibit their future plans.

What careers do Queen Elizabeth students aspire to? About ten percent hope to have a professional career, but the large majority look to a future in a semi-professional or skilled labour field. For most students, their aspirations have been a matter of personal choice; only a few of them said that their parents helped shape their decision in any way. Although popular opinion suggests that the link between teachers and students is close in a small school, only a few students suggested that the guidance department, the school, or their teachers had helped them arrive at a career decision.

On the other hand, 70 percent of the students said that they had a good experience in Queen Elizabeth District High School. This experience resulted from the totality of their experiences of school life, friends, classes, and the general ambience of the school. In this respect, the students of this small high school are much like their counterparts in larger schools. They are strongly influenced by the particular culture and climate of their school. Students at Queen Elizabeth High School have a good attitude toward their school, their teachers do also. The school is well-regarded in the community and, in this instance, small truly is beautiful!

NOTES FROM THE DIRECTOR

Little attention has been given to the Select Committee on Education, whose first report significantly moderated the directions outlined by the Radwanski recommendations. Their second report, just published, addresses a potentially explosive subject — that of the school day and the school year.

The Report outlines the major advantages and disadvantages of the Year Round Education programs in the United States. In so doing, the Committee looks at some of the educationally questionable procedures we adopt as a result of our commitment to an agricultural perception of the school year — to be precise, the irrationality, from a learning perspective, of the long summer break. Happily, the Committee was not preoccupied with economic advantages — fewer new schools could be seen as an implication of Year Round Education.

The three recommendations of this Committee are not earth shattering. First, the Education Act should be reviewed to ensure that boards have flexibility in adjusting the school year and school day timetables. Second, sample year-round pilot projects should be funded to allow for systematic research and evaluation. Finally, the Ministry is asked to set out a protocol to follow in making changes in the organization of the school year that provides for full consultation with the community.

It is reassuring to know that there is a group of M.L.A.'s, ably chaired by Dianne Poole, who are thoughtfully considering educational issues — those things on which OISE focusses its attention — to the advantage of the province, its children, and its adults.

Walter Pitman

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